Concern: [Seq#1]

With respect to mule deer winter range cover (Management Area Prescription Wildlife MA14-6A and MA26-6A), why were the pre-revision standards & guidelines established in the first place? What, originally, were the determining factors for the winter range cover guidance? What has changed since it was initially believed to be important enough to put these S & G's into place? Please cite the specific best available science which you have utilized in order to reach the determination that a 7% reduction below the current S & G's is acceptable. [ID#1]

Response: [Seq#1]

Standards and guidelines were developed to ensure that the welfare of selected species were considered when planning timber sales. While outside the scope of this decision, my best guess on pre-revision guidelines is that the guidelines came from the 1979 USDA handbook no. 55 "Wildlife Habitats in Managed Forests". Considerable work on deer and elk has been completed since that time. The Forest Restoration Strategy (2012)(a peer-reviewed document) states that "*Previously, the retention or creation of winter thermal cover was deemed the most important habitat variable for winter survival of deer and elk. However, studies have shown that thermal cover is not as critical as other factors such as forage quality and quantity, and human disturbance (Cook et al. 1996, 1998).*"

Cook et al. (1998) concluded that their findings, combined with those of other thermal cover studies (e.g., Robinson 1960; Freddy 1986), offered strong evidence that influences of thermal cover on animal performance and, by extension, population dynamics was rarely of consequence. Hobbs (1989) also found thermal cover to have negligible effects on deer during winter. Cook et al. (2005) noted that there are tradeoffs between providing dense forest cover and providing forage resources, and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance. They reviewed four experiments on quantitative value of thermal cover on deer and elk, and concluded that the weather-moderating effects of thermal cover were probably insufficient to be of much biological value. Mysterud and Ostbye (1999) found that, although cover is important for habitat selection of temperate ungulates, there is no hard evidence that cover affects demography so much that it limits population growth in forested areas, and that there is no evidence that specific arrangements of food and cover areas confer any large advantage to deer. Coulombe et al. (2011) concluded that deer space use appeared to be based more strongly on forage biomass than on cover, particularly at higher population densities. Findings by Masse and Cote (2009) suggested that habitat selection by white-tail deer at high population densities and in the absence of predators, were driven by forage acquisition rather than a trade-off between forage and cover. Updated literature search (April, 2017) did not locate additional research on specific cover levels on either winter or other seasonal ranges. I found no references that indicated the need for 40% of the winter range to be in a cover condition.

Local studies of mule deer winter range use in Okanogan and Chelan counties found little use of dense cover stands. Naney and Myers (undated) followed 11 radio-collared deer and made 692 observations representing 1,044 deer in the Methow Valley during two winters. Of the deer observed, 73% were on sites with no conifer crown closure. Five % of the total winter observations were of deer using cover with greater than 60% crown closure. Ninety % of the winter range was dominated by habitat classes dominated by bitterbrush, sagebrush, bunchgrass, and pole-sized trees with undergrowth of shrubs or

bunchgrass. In this study, deer did not appear to prefer thermal cover. However, they noted that observations were daylight hours only, and during winters that were warmer and drier than normal. Moore (2003), in a similar study in Chelan county, found that mule deer use was positively associated to areas without cover, and had a negative association to areas of cover. No difference in day and night habitat use was observed.

The justification for a reduction in deer winter cover is based on literature review that failed to find a need for 40% thermal cover and the landscape analysis for the project area that found an overabundance of dense stands.

Effects to deer, including disturbance are disclosed in the Revised Preliminary EA at p.24-26, 180, 198, 205, 208-211 and in the updated Specialist Report (Glidden, 2017 at p.49).

Besides changes to the knowledge base, changes in forest condition have occurred as well, and are described in the Revised Preliminary EA in chapter 3, particularly in the Fire/Fuels and Vegetation sections. [ID#1]

Associated Comments: [Seq#1]

With respect to mule deer winter range cover (Management Area Prescription WIldlife MA14-6A and MA26-6A), why were the pre-revision standards & guidelines established in the first place? What, originally, were the determining factors for the winter range cover guidance? What has changed since it was initially believed to be important enough to put these S & G's into place? Please cite the specific best available science which you have utilized in order to reach the determination that a 7% reduction below the current S & G's is acceptable. [3-3]

Concern: [Seq#2]

Please cite the best available science and rationale for removing protections from mule deer populations while allowing incursions by heavy logging machinery and snowplows (for winter hauling of logs); [ID#2]

Response: [Seq#2]

Best available science and effects to mule deer are discussed in the Revised Preliminary EA at p.198-199 and 205-211. [ID#2]

Associated Comments: [Seq#2]

Please cite the best available science and rationale for removing protections from mule deer populations while allowing incursions by heavy logging machinery and snowplows (for winter hauling of logs); [3-4]

Concern: [Seq#3]

Please cite the data which informs your statement, "Forested stand composition in deer thermal cover consist of a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future." What is this "historical period" to which you refer? Is it pre-European; is it pre-hominoid? [ID#3]

Response: [Seq#3]

Past management practices, including fire suppression, changed forest vegetation structure, overstory and understory species composition, and spatial patterns in comparison to historical conditions. These changes include a large increase of densely-stocked stands with multiple canopy layers or closed canopies with a high proportion of young shade-tolerant tree species (including Douglas-fir and subalpine fire in the dry forest type and subalpine fir in the moist forest type). These densely stocked stands tend to be arranged in a more continuous or unbroken pattern across the project area compared to historical conditions. Dry and moist forest stands with lower tree stocking levels and open canopy closure have decreased in total area and patch (stand) size compared to historic levels. Dry and moist forest stands comprised primarily of large trees also have decreased in total area and patch size compared to historic levels. Portions of the project area are susceptible to dwarf mistletoe infection, defoliating insects, and bark beetle attacks due to vegetation composition and structure changes from historical conditions. The risk of crown fire initiation and spread and associated fire effects are greater than historical conditions, particularly in the Buttermilk watershed, due to increased tree density and development of forest stands with multiple and closed canopy layers across the landscape. Dry and moist forest vegetation in the project area is susceptible to increased frequency and severity of natural disturbances (including insects, disease, and fire) associated with warmer, drier climate. A purpose of this project is to maintain and restore forest vegetation characteristics to within estimated historical and future ranges of variability to improve forest resiliency to insect, disease, and wildfire events (Revised Preliminary EA at p.4-5.).

Peterson et al. (2005) compiles information on changes to forest structure and composition in GTR 628 "*Forest Structure and Fire hazard in Dry Forests of the Western United States".* These changes have resulted in changes in the amount of deer cover and forage.

The use of the term "historical" in this context refers to the time before European settlement.

[ID#3]

Associated Comments: [Seq#3]

Please cite the data which informs your statement, "Forested stand composition in deer thermal cover consist of a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future." What is this "historical period" to which you refer? Is it pre-European; is it pre-hominoid? [3-5]

Concern: [Seq#4]

Please disclose the best available science the FS is relying upon for analysis of direct, indirect, and cumulative effects on the Canada lynx, grizzly bear, northern spotted owl, Spring Chinook, Summer Steelhead, Bull Trout and gray wolf.

Please disclose the best available science the FS is relying upon for analysis of direct, indirect, and cumulative effects on each of those species along with the sensitive Westslope Cutthroat and Interior Redband Rainbow trout. [ID#4]

Response: [Seq#4]

For the terrestrial wildlife resource, the best available science is cited in the Revised Preliminary EA at p.175-211, the revised Wildlife Report (Glidden, 2017) and the biological assessment (draft). Here are the citations (revised Wildlife Report at p.75):

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Associated Comments: [Seq#4]

The EA states, "Region 6 Regional Forester Sensitive Species that would be affected by thinning as allowed by the amendment include gray flycatchers, white-headed woodpeckers, western gray squirrels, and Northern goshawk." Please disclose the best available science the FS is relying upon for analysis of direct, indirect, and cumulative effects on each of those species along with the sensitive Westslope Cutthroat and Interior Redband Rainbow trout. [2-9]

Please disclose the best available science the FS is relying upon for analysis of direct, indirect, and cumulative effects on the Canada lynx, grizzly bear, northern spotted owl, Spring Chinook, Summer Steelhead, Bull Trout and gray wolf. [2-10]

Concern: [Seq#5]

From the EA-Mule deer populations in Region 2 are in a gradual decline due to fire suppression, thus reducing thermal cover may spell the demise of mule deer in this area. [ID#5]

Response: [Seq#5]

The best available science and effects of the proposed action on mule deer are disclosed in the Revised Preliminary EA at p. 198-199, 205-211, and copied in part, below. *The justification for a reduction in deer winter cover is based on literature review that failed to find a need for 40% thermal cover and the landscape analysis for the project area that found an overabundance of dense stands. The best available science information (BASI) considered during the literature review includes Cook's 1996 and 1998 papers because they were cited in the Forest Restoration Strategy (USDA 2012a), which provides the BASI for forest restoration used in this project. Other literature also emphasized the importance of forage. A summary of BASI regarding deer thermal cover resulted in these findings: Cook et al. (1998) concluded that their findings, combined with those of other thermal cover studies (e.g., Robinson 1960; Freddy 1986), offered strong evidence that influences of thermal cover on animal performance and, by extension, population dynamics was rarely of consequence. Cook (in Duncan 2000) notes that "the finding that thermal cover failed to provide energetic benefits during winter is consistent with every other study of thermal cover influence on large ungulates conducted under rigorous scientific*

conditions", and supports the need for forage over a specific amount of cover, at least for elk, with four key findings: 1. No significant positive effect of thermal cover was found on condition of elk during any of four winter-long experiments and two summer-long experiments. In fact, during winter, dense cover actually provided the most costly energetic environment. 2. The lack of significant positive benefits of thermal cover during any winter of the study is consistent with every other study of thermal cover influences on large wild ungulates conducted under rigorous scientific conditions. 3. During summer, results showed no indication that elk performance was influenced in any way by forest cover treatments, despite temperatures significantly above normal both summers. Other researchers have found elk to be surprisingly tolerant of high summer temperatures. 4. The energetic benefits of thermal cover seem inconsequential, thus leaving forage effects as the primary mechanism through which habitat influences individual animal performance. Hobbs (1989) also found thermal cover to have negligible effects on deer during winter. Cook et al. (2005) noted that there are tradeoffs between providing dense forest cover and providing forage resources, and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance. They reviewed four experiments on quantitative value of thermal cover on deer and elk, and concluded that the weather-moderating effects of thermal cover were probably insufficient to be of much biological value. Mysterud and Ostbye (1999) found that, although cover is important for habitat selection of temperate ungulates, there is no hard evidence that cover affects demography so much that it limits population growth in forested areas, and that there is no evidence that specific arrangements of food and cover areas confer any large advantage to deer. Coulombe et al. (2011) concluded that deer space use appeared to be based more strongly on forage biomass than on cover, particularly at higher population densities. Findings by Masse and Cote (2009) suggested that habitat selection by white-tail deer at high population densities and in the absence of predators, were driven by forage acquisition rather than a trade-off between forage and cover. Local studies of mule deer winter range use in Okanogan and Chelan counties found little use of dense cover stands. Naney and Myers (undated) followed 11 radio-collared deer and made 692 observations representing 1,044 deer in the Methow Valley during two winters. Of the deer observed, 73% were on sites with no conifer crown closure. Five percent of the total winter observations were of deer using cover with greater than 60% crown closure. Ninety percent of the winter range was dominated by habitat classes dominated by bitterbrush, sagebrush, bunchgrass, and pole-sized trees with undergrowth of shrubs or bunchgrass. In this study, deer did not appear to prefer thermal cover. However, they noted that observations were daylight hours only, and during winters that were warmer and drier than normal. Moore (2003), in a similar study in Chelan County, found that mule deer use was positively associated to areas without cover, and had a negative association to areas of cover. No difference in day and night habitat use was observed. Mule deer populations in Washington Department of Wildlife's Region 2, where the project is located, have experienced a gradual long-term decline in numbers which is attributed to reduced shrub diversity, declining productivity of aging shrubs and lack of recruitment of new shrubs due to fire suppression (Fitkin and Heinlen, 2012). Herd growth has plateaued, and productivity and recruitment has fallen off as the herd reached 20-25,000 animals, which appears to be the landscape carrying capacity for deer (ibid). Fitkin and Heinlen conclude that unless steps to revitalize shrub growth on winter range and human development is managed, this declining trend can be expected to continue. This project would increase forage on more than 2,000 acres of winter range, including the 746 acres as provided by the amendment, and move habitat conditions closer to historical characteristics that developed under natural disturbance regimes. A more recent literature search (April, 2017) did not locate additional research on specific cover levels on either winter or other seasonal ranges; no

references were found that indicated the need for 40% or more of the winter range to be in a cover condition. [ID#5]

Associated Comments: [Seq#5]

From the EA-Mule deer populations in Region 2 are in a gradual decline due to fire suppression, thus reducing thermal cover may spell the demise of mule deer in this area. [6-12]

Concern: [Seq#6]

In Region 6 many fish, mammals and birds are at risk from thinning the forest: gray fly catchers,white headed woodpeckers, western gray squirrels, northern goshawk, west slope cutthroat and interior redound rainbow trout, Canada lynx, grizzly bear, northern spotted owl, spring chinook, summer steelhead, bull trout and gray wolf. How does the FS intend to mitigate this potential mass destruction of the native populations in our forest?

[ID#6]

Response: [Seq#6]

The effects to these species are disclosed in the Revised Preliminary EA at p.185-216. Mitigations are listed starting at p.353, with species' specific mitigation starting at p.377.

The treatment area footprint comprises about 20% of the area, so much of the area will be left in an untreated condition, which will provide a balance of dense and more open forest. The more mesic habitat types would be managed for spotted owls, while the dry pine-dominated stands (and stands that would have historically been pine-dominated) would be managed for squirrels and other species, such as gray flycatchers and white-headed woodpeckers. Habitat needs for these species and the effects of the project on their habitats are found in the Preliminary EA at p. 128-166.

Within the units, design criteria and mitigation measures are an important component to balance the needs of a variety of wildlife species and provide within-stand diversity. These are found in Appendix D of the preliminary EA, starting at p. 341. Mitigations for wildlife habitat start at p. 365, and include:

- In harvest units, retain complex patches, clumps, and canopy gaps in accordance with the Forest Restoration Strategy
- During post-harvest ladder fuel reduction thinning, retain complex patches, clumps, and gaps retained in the harvest units.
- During ladder fuel reduction thinning outside of harvest units, retain clumps of unthinned patches of trees from 0.1 to multiple acres.
- Retain denser forest in riparian areas and in clumps and patches across the landscape for western gray squirrels. In harvest and ladder fuel reduction thinning units, retain groups of trees with interlocking canopies and more open areas to balance fungal and mast crop production. Provide

stringers of trees with interlocking crowns between natal nest sites, forage areas, and water for western gray squirrels.

- In ladder fuel reduction thinning units, retain areas of dense multistoried canopy cover across 15 - 20% of the fuels treatment footprint in patches from 0.1 acre to multiple acres for mule deer.
- Limit the diameter of large trees cut under trees in stands providing Nesting-Roosting-Foraging (NRF) habitat to <21" DBH. Retain snags and defective trees. [ID#6]
  Associated Comments: [Seq#6]
  In Region 6 many fish, mammals and birds are at risk from thinning the forest: gray fly catchers,white headed woodpeckers, western gray squirrels, northern goshawk, west slope cutthroat and interior redound rainbow trout, Canada lynx, grizzly bear, northern spotted owl, spring chinook, summer steelhead, bull trout and gray wolf. How does the FS intend to mitigate this potential mass destruction of the native populations in our forest? [6-13]

Concern: [Seq#7]

The amendment refers to elk and deer lumped together in regards to the needs for thermal cover thus confusing the information. [ID#7]
Response: [Seq#7]

Deer and elk use generally similar habitats and habitat components, and management recommendations are sometimes made for both species (or even for large ungulates or big game species). Two examples are Cook et al. (2005) and USDA handbook no. 553 "*Wildlife Habitats in Managed Forests*". In the Methow Valley, few elk are found, but mule deer are an important game species. Management guidelines for mule deer were included in the forest plan. The species of concern in this project are mule deer. [ID#7]
Associated Comments: [Seq#7]
The amendment refers to elk and deer lumped together in regards to the needs for thermal cover thus confusing the information. [6-5]

Concern: [Seq#8]

This commentor is wondering how fine sediment levels would be monitored.

This revised document continues to justify a commercial timber sale under the guise of forest and aquatic restoration, although funding will only be assured for the commercial thinning/logging with

restoration measures dependent on potential future allocation of public funds. The two versions present a conundrum; while both recognize short-term and/or long-term adverse impacts of fine sediment from logging and prescribed burning on aquatic habitat, the revised version projects that those amounts of sediment will be "imperceptible". How will that sediment critical to aquatic habitat be monitored? [ID#8]

Response: [Seq#8]

For the Okanogan-Wenatchee National Forest, the primary driver impairing instream sediment levels is the extensive road system. To assess sediment impacts, the project relied on the Okanogan-Wenatchee's Whole Watershed Restoration Procedures process. Changes in fine sediment were qualitatively assess using the following road-stream metrics: includes road density, drainage network, riparian road density, and roads crossings per stream mile. These metrics are widely accepted as indicators of aquatic health and stream sediment levels. They were used as proxies for changes to artificial sediment inputs and assumed changes to instream sediment levels. [ID#8]

Associated Comments: [Seq#8]

This revised document continues to justify a commercial timber sale under the guise of forest and aquatic restoration, although funding will only be assured for the commercial thinning/logging with restoration measures dependent on potential future allocation of public funds. The two versions present a conundrum; while both recognize short-term and/or long-term adverse impacts of fine sediment from logging and prescribed burning on aquatic habitat, the revised version projects that those amounts of sediment will be "imperceptible". How will that sediment critical to aquatic habitat be monitored? [7-1]

Concern: [Seq#9]

The claim that the amount of sediment would be "imperceptible" is much in question. What is the best available science regarding the benefits/costs of rock armoring? [ID#9]

Response: [Seq#9]

There is extensive literature on the benefits or rock armoring stream crossings to reduce sediment. It is in Forest Service handbooks, deign criteria, basic road maintenance handbooks, etc. The Water Erosion Prediction Project (WEPP) model predicts a reduction from rock armoring of ~80% comparing low traffic unarmored crossings to high traffic crossings during timber haul.

Elliot, W.J., Hall, D.E., Scheele, D.L., 1999b. WEPP interface for predicting forest road runoff, erosion and sediment delivery. Technical Documentation. U.S.D.A. Forest Service. [ID#9]

Associated Comments: [Seq#9]

The claim that the amount of sediment would be "imperceptible" is much in question. What is the best

available science regarding the benefits/costs of rock armoring? [4-20]

Concern: [Seq#10]

At the outset, I want it to be stated in the record that the following comments are being written on extremely short notice. This is due to the fact that the Revised Preliminary Mission Restoration Project Environmental Assessment, while allegedly emailed to me, never reached my mailbox. As much as I searched for it-in my inbox, trash folder, spam, and junk-it was not to be found. I am a well-experienced email user. If the message had arrived I would have seen it, but it did not arrive. The fact the USFS says they sent it is a moot point if I did not receive it and I should not bare responsibility for this event. In the recent past, the Forest Service has demonstrated other problems with digital media. During the previous

comment period

on the Mission Restoration Project, the time stamps on the USFS site were inaccurate and were not reflective of when comments were truly submitted. This was witnessed by a number of other people who submitted comments and is irrefutable. Obviously, digital communication is not without it problems. Had the Forest Service

mailed

out

hard copies

of the document in the first place, there would have been an increased likelihood that I would have had more time to read and respond to the revisions. My wife, Joanne Cooper, spoke with both Meg Trebon (Special Uses & Minerals Forest Service Methow Valley Ranger District, Okanogan-Wenatchee NF) and Mike Liu (District Ranger Forest Service Methow Valley Ranger District, Okanogan-Wenatchee NF) on July 26 & 27, 2017 and neither saw fit to grant an e

xtension

to us based upon this technical glitch. It is a shame that the USFS does not wish to take any responsibility for this error, however it occurred. This erodes my faith that the USFS/MVRD is truly invested in open, timely, clear, public-friendly, and easily accessible documentation with less, not more, obfuscation. It is offensive to me that in her follow-up email, Meg Trebon offers no apology and does

nothing but externalize blame for this error. This is commonly referred to as "blaming the victim" and is often used as a way to deflect responsibility away from the source. It is my sincere hope that the FS will take this account into consideration and review their communication/dissemination policies and practices. [ID#10]

Response: [Seq#10]

As has previous been provided to your spouse, the Forest Service has records it was sent to your email address on June 29, 2017 and the times that it was sent to you or your spouse. We did not get a reject on your email address. We are trying to follow-up on the time stamp issue, but since we do not seem to be able to find this problem with any other comments received seem to only be hitting dead ends. We had the time stamp issue followed up by our technical support staff and they could find no problems with the CARA system for recording comment letters. Notices for the Revised Preliminary EA were sent in such a fashion that it provided the time that it was sent and we recorded if was received by the server for your internet provider. [ID#10]

Associated Comments: [Seq#10]

At the outset, I want it to be stated in the record that the following comments are being written on extremely short notice. This is due to the fact that the Revised Preliminary Mission Restoration Project Environmental Assessment, while allegedly emailed to me, never reached my mailbox. As much as I searched for it-in my inbox, trash folder, spam, and junk-it was not to be found. I am a well-experienced email user. If the message had arrived I would have seen it, but it did not arrive. The fact the USFS says they sent it is a moot point if I did not receive it and I should not bare responsibility for this event. In the recent past, the Forest Service has demonstrated other problems with digital media. During the previous comment period on the Mission Restoration Project, the time stamps on the USFS site were inaccurate and were not reflective of when comments were truly submitted. This was witnessed by a number of other people who submitted comments and is irrefutable. Obviously, digital communication is not without it problems. Had the Forest Service mailed out hard copies of the document in the first place, there would have been an increased likelihood that I would have had more time to read and respond to the revisions. My wife, Joanne Cooper, spoke with both Meg Trebon (Special Uses & Minerals Forest Service Methow Valley Ranger District, Okanogan-Wenatchee NF) and Mike Liu (District Ranger Forest Service Methow Valley Ranger District, Okanogan-Wenatchee NF) on July 26 & 27, 2017 and neither saw fit to grant an extension to us based upon this technical glitch. It is a shame that the USFS does not wish to take any responsibility for this error, however it occurred. This erodes my faith that the USFS/MVRD is truly invested in open, timely, clear, public-friendly, and easily accessible documentation with less, not more, obfuscation. It is offensive to me that in her follow-up email, Meg Trebon offers no apology and does nothing but externalize blame for this error. This is commonly referred to as "blaming the victim" and is often used as a way to deflect responsibility away from the source. It is my sincere hope that the FS will take this account into consideration and review their communication/dissemination policies and practices. [3-1]

Concern: [Seq#11]

In conclusion, I am opposed to and cannot support this amendment to the standards and guidelines. Eliminating safety and protection of the thermal cover for the mule deer is unacceptable. [ID#11]
Response: [Seq#11]

Thank you for your comments. Your comments about deer thermal cover are addressed in response to other comments that you provided. [ID#11]
Associated Comments: [Seq#11]
In conclusion, I am opposed to and cannot support this amendment to the standards and guidelines. Eliminating safety and protection of the thermal cover for the mule deer is unacceptable. [6-27]

Concern: [Seq#12]

The naming of this project "Mission Restoration" misleads the public that impact affects only a limited area rather than 50,000 acres within both the Libby and Buttermilk watersheds.] [ID#12]
Response: [Seq#12]

This project was named after Mission Peak which is a prominent feature in the project area. [ID#12]
Associated Comments: [Seq#12]
The naming of this project "Mission Restoration" misleads the public that impact affects only a limited area rather than 50,000 acres within both the Libby and Buttermilk watersheds.] [7-8]

Concern: [Seq#13]

Comparison of Alternatives [Figures 10 (original) and 11 (revised) were not compared since there was no determination by the Forest of any changes.] [ID#13]
Response: [Seq#13]

I am not sure that I understand the comment. There were no changes between the tables since there was no change in the effects between the documents. The only difference was related to meet the 2012 Forest Plan Planning Rule requirements. [ID#13]
Associated Comments: [Seq#13]
Comparison of Alternatives [Figures 10 (original) and 11 (revised) were not compared since there was no determination by the Forest of any changes.] [7-14]

Concern: [Seq#14]

The project in general, and therefore the proposed amendment, should not be allowed since nothing besides the commercial logging is assured to take place. All of the environmental damage from the project as well as the risk to public safety (winter log haul) cannot in any way be justified by giving private log companies profit and leaving the public's land with a deficit. [ID#14]

Response: [Seq#14]

Commercial thinning harvest will happen under some type of timber sale contract; likely a Stewardship type of contract. A stewardship type of contract has the advantage of providing funding from timber sale receipts to contribute to the development of sustainable rural communities, restore and maintain healthy forest ecosystems, and provide a continuing source of local income and employment. Stewardship contracts allow the Forest Service to apply the value of timber or other forest products removed as an offset against the cost of services received, applying excess receipts from a project such as Mission Restoration to other authorized stewardship projects. Stewardship contracts may be used for treatments to improve, maintain, or restore forest and rangeland health; restore or maintain water quality; improve fish and wildlife habitat; noxious weed abatement; road and stream restoration; road improvement and culvert replacement; and reduce hazardous fuels that pose risks to communities and ecosystem values. Discussions have also been taking place with State agencies, tribal governments, and others as possible funding sources for non-timber contract work.

It is an unfortunate reality that the FS does not have the resources to fully fund all proposed actions. While roads used for timber harvest will be rehabilitated or decommissioned post-harvest as part of the contract, the other roads slated for closure or decommissioning will be completed as funding becomes available. This may come through the FS or may be provided by partners.

Funding of other restoration projects approved in this NEPA document is similar. Under Alternatives 2 and 3, as proposed, an estimated $300,000 of funding may be available for other authorized stewardship projects. The environmental review, NEPA, for these other projects is completed for this project so if the opportunity for additional funding is available, the necessary review is completed to be able to implement those projects. Thank you for your comment and we agree that the funding issue is a difficult one. [ID#14]

Associated Comments: [Seq#14]

The project in general, and therefore the proposed amendment, should not be allowed since nothing besides the commercial logging is assured to take place. All of the environmental damage from the project as well as the risk to public safety (winter log haul) cannot in any way be justified by giving private log companies profit and leaving the public's land with a deficit. [4-18]

Only the commercial logging component of this project is reported to be funded. With all the other goals for restoration unfunded it is a mystery how they will happen. And so it would appear that resource extraction is the priority under the guise of saving the community from "catastrophic fire." That seems deceptive. [6-1]

Concern: [Seq#15]

This is an expanded logging project first proposed in the 2008 Revised Libby Creek AMP to increase transitional forage for cattle, rather than a "proposed Mission Restoration Project" [ID#15]

Response: [Seq#15]

This project was developed differently than the proposed 2008 project. This project was developed using the EMDS process for forest restoration, but also with a similar objective of reducing fire hazard adjacent to private lands. There are a number of similarities in proposed thinning treatments and differences in proposed fuels treatments between the projects. An effect of this project will include increasing transitional forage but that is not a "purpose" or "need" of this project. There is no proposal in this project to increase permitted grazing. [ID#15]

Associated Comments: [Seq#15]

"Amending these S&Gs would provide for snowplowing up to 16 miles of Forest Road 43 that accesses proposed winter harvest units for the purpose of implementing the Mission Restoration Project." [This is an expanded logging project first proposed in the 2008 Revised Libby Creek AMP to increase transitional forage for cattle, rather than a "proposed Mission Restoration Project".] [7-3]

Concern: [Seq#16]

Overall, it is fairly evident that the purpose and need of the revision expressed by the Forest Service is about demonstrating an adherence to rules, i.e., laws, and regulations. This, then, is more about "correctly" choosing and applying words ("laws and regulations") to justify an essentially pre-determined plan to permit further commercial timber sales on public lands under the guise of "forest restoration" and mitigation of "catastrophic wildfires". And, once again it is clear that this is in service to "getting the job done", whatever it takes. According to the Revised EA, 2.3.1 Amendments and 2012 Planning Rule, "A plan may be amended at any time." In this instance, it appears that this conveniently gives license to change the rules mid-stream even when this means debasing your own previously established Forest Plan Standards & Guidelines. [ID#16]

Response: [Seq#16]

The rules are not being changed mid-stream. The rules are being updated to follow more current science. It is more important to have healthy deer going into winter than having adequate winter range thermal cover and foraging areas. In general, this project would return habitat conditions nearer to what would have been present historically under natural disturbance regimes which deer evolved with. Deer cover would decline due to timber harvest and prescribed fire while high quality deer forage would increase and move towards deer habitat recommendations to meet biological needs of deer. See

response to Concern/Response #1 for a biological explanation of the proposed change. [ID#16]

Associated Comments: [Seq#16]

Overall, it is fairly evident that the purpose and need of the revision expressed by the Forest Service is about demonstrating an adherence to rules, i.e., laws, and regulations. This, then, is more about "correctly" choosing and applying words ("laws and regulations") to justify an essentially pre-determined plan to permit further commercial timber sales on public lands under the guise of "forest restoration" and mitigation of "catastrophic wildfires". And, once again it is clear that this is in service to "getting the job done", whatever it takes. According to the Revised EA, 2.3.1 Amendments and 2012 Planning Rule, "A plan may be amended at any time." In this instance, it appears that this conveniently gives license to change the rules mid-stream even when this means debasing your own previously established Forest Plan Standards & Guidelines. [3-2]

-Amending the S&G calls into question the integrity of the FS, appearing inconsistent, unaccountable and lacking transparency. [6-4]

Concern: [Seq#17]

The project and the amendment proposal make a mockery of the substantive provisions (cfr 219.8-219.11) which are intended to insure ecological sustainability. The Forest Service counts only on what is "intended" (top of pg 27) according to their own best available science, but dismisses other science that has been referenced in the many comments submitted for the original Preliminary EA. "Intentions" are not good enough. The rationale is weak and a disservice to the public whose land the Forest Service is supposed to be protecting. Ecosystem integrity and diversity will not be enhanced by this proposal nor will the vegetation conditions left after logging be "more sustainable" (pg 27).

Since all parts of a biological system affect the other parts, then with each change that the FS brings to the forest one realizes the complexity, interconnectivity and balance that must be maintained to have a healthy ecosystem. Has the FS considered that your "best available science" is not the best, but serves the purpose to justify moving ahead with this irresponsible and destructive project? Policies such as fire suppression, logging, cattle grazing, herbicide spraying, disregard for ESA listed fish and mammals are destroying the forest, not restoring it. [ID#17]

Response: [Seq#17]

The Forest Service reviews and utilizes what we believe to be the best available science. Other references cited by commenters are reviewed. We try to utilize peer-reviewed papers related to the challenges in forest management in Northeast Washington and not opinion pieces in online magazines, newspaper articles, opinion pieces arguing against Bush administration forest initiatives, and statements taken out of context from peer-reviewed articles, and we review research papers from other eco-regions such as the Sierra Nevada's of California or the Klamath-Siskiyou of northern California and southwest Oregon and utilize when applicable to the project. The Forest Service considers ecological sustainability, protection of ecosystem integrity, diversity, and other factors in preparing our effects

analysis. The Forest Service has to consider all parts of a biological system; that with each change that the Forest Service brings to the forest we have to consider the complexity, interconnectivity and balance that must be maintained to have a healthy ecosystem. [ID#17]

Associated Comments: [Seq#17]

The project and the amendment proposal make a mockery of the substantive provisions (cfr 219.8-219.11) which are intended to insure ecological sustainability. The Forest Service counts only on what is "intended" (top of pg 27) according to their own best available science, but dismisses other science that has been referenced in the many comments submitted for the original Preliminary EA. "Intentions" are not good enough. The rationale is weak and a disservice to the public whose land the Forest Service is supposed to be protecting. Ecosystem integrity and diversity will not be enhanced by this proposal nor will the vegetation conditions left after logging be "more sustainable" (pg 27). [4-17]

The FS seems to avoid any new scientific views presented by the public, therefore negating any potential input the public would like to see instituted. Since the FS alleges to welcome public input-these two pieces of information are at odds. [6-8]

Since all parts of a biological system affect the other parts, then with each change that the FS brings to the forest one realizes the complexity, interconnectivity and balance that must be maintained to have a healthy ecosystem. Has the FS considered that your "best available science" is not the best, but serves the purpose to justify moving ahead with this irresponsible and destructive project? Policies such as fire suppression, logging, cattle grazing, herbicide spraying, disregard for ESA listed fish and mammals are destroying the forest, not restoring it. [6-15]

Concern: [Seq#18]

On pg. 24 of the revised EA the term "reduced flexibility" is used but not defined. What does this mean in this context?

What else has changed and what is the meaning of "reduced flexibility"? This explanation of why other amendments were dropped is completely inadequate. [ID#18]

Response: [Seq#18]

This statement means that there will be more constraints required of the timber purchaser on when portions of the project can be harvested. Specifically, this statement refers to without an amendment to Standards and Guidelines, a small portion of the project will have to be summer logged and can not normally be harvested between December 1st to April 1st that is accessed off a small portion of Forest Road 43.

The wildlife biologist for the project made the determination that winter haul could be permitted since the goals of Management Areas 14 and 26 would be meet for the project area.

It was determine that winter snowplowing of Forest Roads 4300, 4340, and 4300300 could be staged in such a way as to meet Forest Plan Standards and Guidelines for recreational use or wildlife protection except for between Forest Roads 4340 and 4300300. Units accessed off this section of road would have to be harvested outside the December 1 to April 1 period (area of reduced flexibility). [ID#18]

Associated Comments: [Seq#18]

The Revised Preliminary EA states on page 24, "IDT members determined...that several proposed amendments were unnecessary because proposed treatments would be consistent with the Standards and Guidelines those amendments would have temporarily altered, or the project could be implemented with reduced flexibility without those amendments." It does not describe here or reference any other place in the document the meaning of "reduced flexibility." What else has changed and what is the meaning of "reduced flexibility"? This explanation of why other amendments were dropped is completely inadequate. [4-3]

On pg. 24 of the revised EA the term "reduced flexibility" is used but not defined. What does this mean in this context? [6-6]

Concern: [Seq#19]

No notice for this new comment period was given to some citizens who commented on scoping and the Preliminary EA and who had diligently kept their names on contact lists solicited by the Forest Service regarding this project.

First, I would like to address the ongoing issue of communication with the local residents regarding comment periods for the two EA documents released to date. It is my understanding that formal notification was not issued to all of the planning participants who asked to be informed; perhaps the Forest Service is continuing to assume that Methow Valley residents and other interested parties will read the fine print in the Wenatchee World legal notices section, a paper not easily available, if at all, locally. This obviously curtails the ability of many interested parties to comment in a timely manner, or at all. [ID#19]

Response: [Seq#19]

A Notice of Opportunity to comment was published in the Wenatchee World, the legal paper of record, on June 30, 2017. An email Notice of the Opportunity to comment was sent to over 150 individuals about twice as many as who had previously commented on this project or attended public meetings on June 29th. Individuals who had requested a paper copy of the revised Preliminary Environmental Assessment were also sent the document. A News Release of the opportunity to comment was also sent to 27 individuals and news outlets including the Methow Valley News, the Gazette-Tribune, The Wenatchee World, the Omak Chronicle, and local radio stations.

No specific individual names were provided by the commenters.

The Forest Service makes an effort to provide an opportunity for all of the interested public to comment. [ID#19]

Associated Comments: [Seq#19]

No notice for this new comment period was given to some citizens who commented on scoping and the Preliminary EA and who had diligently kept their names on contact lists solicited by the Forest Service regarding this project. [4-4]

First, I would like to address the ongoing issue of communication with the local residents regarding comment periods for the two EA documents released to date. It is my understanding that formal notification was not issued to all of the planning participants who asked to be informed; perhaps the Forest Service is continuing to assume that Methow Valley residents and other interested parties will read the fine print in the Wenatchee World legal notices section, a paper not easily available, if at all, locally. This obviously curtails the ability of many interested parties to comment in a timely manner, or at all. [5-1]

Concern: [Seq#20]

-It appears that the loggers and cattle ranchers will benefit financially to the loss of the rest of us, animals, fish and forest. [ID#20]

Response: [Seq#20]

As stated in section 1.2.2, Analysis Process: The intent of this project is to evaluate the analysis area and prescribe and implement a set of treatments that rely on the principles of landscape and stand-level restoration ecology, wildfire hazard reduction, and transportation system management while meeting the direction of the amended Forest Plan and the forest Restoration Strategy, to the extent feasible. The Interdisciplinary Team (IDT) members compared the existing condition to the desired conditions that are consistent with the above documents and other guidance. The IDT also considered changing climates by emphasizing the restoration of natural processes, functions, and patterns across the landscape to build more resilient ecosystems that would be responsive to projected changes in climate. The need for aquatic and soil restoration treatments was based on field verification. Wildlife habitat for selected focal wildlife species was analyzed based on field data and is included in the project record. [ID#20]

Associated Comments: [Seq#20]

-It appears that the loggers and cattle ranchers will benefit financially to the loss of the rest of us, animals, fish and forest. [6-23]

Concern: [Seq#21]

Alternatives are compliant with Forest Plan standards "because they '...will include required prevention strategy standards which would minimize the creation of conditions that favor invasive plant introduction, establishment, and spread." "Thinning...would create an adverse short-term, negligible impact on the potential spread of invasive plants."

[The project actions cannot avoid the introduction, establishment, and spread of invasive plants and would not be in compliance with standards. The logging operation with resulting soil and plant cover disturbance, prescribed burns, and continued cattle grazing will expand invasive plant distribution. Forest staff does not have the capability to assure that all logging equipment, including trucks, are thoroughly cleaned before each entrance to the project area, nor will they be able to assure that cattle and permittee personnel will not carry and spread invasive plants and their seeds when they enter the project area. The adverse impact would be long-term for the allowed continuance of cattle grazing and beyond the end of the projected three years of commercial logging. [ID#21]

Response: [Seq#21]

The total acres of potential weed spread for all project activities is a very small area relative to the total acres of forest restoration treatments. Project design criteria would minimize soil impacts that promote invasive species introduction and would maintain the cover and density of desirable competitive vegetation. Desirable plants that have been suppressed by a dense canopy would also benefit from a more open canopy and provide competition for potential invasive plant establishment and spread. It is likely that some of the New Invader populations were introduced by cattle within the Mission Analysis Area. Despite the relatively large number of cattle that are brought in from areas outside the Mission Analysis Area, extensive weed surveys in recent years have not detected any of the weed species listed as Potential Invaders and most invasive populations are along roads, not in the general forest where cattle graze. It is true that the project actions cannot completely avoid the introduction, establishment, and spread of invasive plants but the creation of conditions that favor invasive plant introduction, establishment, and spread would be minimized, thus meeting the standard. (EA section 3.11 Invasive Species 258-276) [ID#21]

Associated Comments: [Seq#21]

Alternatives are compliant with Forest Plan standards "because they '...will include required prevention strategy standards which would minimize the creation of conditions that favor invasive plant introduction, establishment, and spread." "Thinning...would create an adverse short-term, negligible impact on the potential spread of invasive plants." [The project actions cannot avoid the introduction, establishment, and spread of invasive plants and would not be in compliance with standards. The logging operation with resulting soil and plant cover disturbance, prescribed burns, and continued cattle grazing will expand invasive plant distribution. Forest staff does not have the capability to assure that all logging equipment, including trucks, are thoroughly cleaned before each entrance to the project area, nor will they be able to assure that cattle and permittee personnel will not carry and spread invasive plants and their seeds when they enter the project area. The adverse impact would be long-term for the allowed continuance of cattle grazing and beyond the end of the projected three years of commercial logging.] [7-42]

Concern: [Seq#22]

Thinning would create an adverse, short-term, negligible effect on system drivers such as invasive species because thinning would create a more open forest canopy, allowing more light to reach the surface and providing favorable conditions for the spread of invasive species (Revised Preliminary EA at p. 276)."

[The effect would be neither short-term nor negligible and would be driven by much more than increased light to the surface. The principle long-term adverse effects would include critical aquatic habitat(see earlier comments), as well as invasive plants. The additional drivers would include the actions of both the logging and continued cattle grazing removing the existing native plants providing ground cover and creating bare soil. The thinning of mule deer thermal cover allowed by an amended Forest Plan would provide increased transitional forage for cattle in the bottoms of 5 Libby Creek sub-drainages resulting in increased pressure on the riparian and aquatic habitats. [ID#22]

Response: [Seq#22]

The respondents comment that cattle "remove existing native plants" is an overstatement. Generally, cattle grazing will remove some of the foliage but the plant will survive and these desirable plants that have been suppressed by a dense canopy would benefit from a more open canopy and provide competition for potential invasive plant establishment and spread. Cattle access to riparian areas was analyzed for the project activities. Opening forest stands within riparian reserves may increase cattle access to the riparian areas and may limit meeting Riparian Management Objectives, however alternatives 2 and 3 would have no-harvest buffers combined with winter logging along Riparian Reserves which would be beneficial in attaining riparian management objectives. Opening forest stands in the uplands outside of riparian reserves would increase available forage and would likely draw cattle away from the riparian area. The number of cattle that access riparian areas may decrease, because grazing distribution patterns would improve in the uplands. Even though the more open stands could allow easier access to riparian areas, no additional use of riparian areas is expected because cattle distribution would be improved and direct access to streams would be restricted by riparian vegetation along streams. (EA Section 3.10 Range, pages 258-276) [ID#22]

Associated Comments: [Seq#22]

Thinning would create an adverse, short-term, negligible effect on system drivers such as invasive species because thinning would create a more open forest canopy, allowing more light to reach the surface and providing favorable conditions for the spread of invasive species (Revised Preliminary EA at p. 276)." [The effect would be neither short-term nor negligible and would be driven by much more than increased light to the surface. The principle long-term adverse effects would include critical aquatic habitat(see earlier comments), as well as invasive plants. The additional drivers would include the actions of both the logging and continued cattle grazing removing the existing native plants providing ground cover and creating bare soil. The thinning of mule deer thermal cove allowed by an amended Forest Plan would provide increased transitional forage for cattle in the bottoms of 5 Libby Creek

sub-drainages resulting in increased pressure on the riparian and aquatic habitats.] [7-47]

Concern: [Seq#23]

Page 258, 219.8(b)(2). "Additional forage would distribute livestock use more evenly..." How will the cows know not to just graze more intensely on the newly created forage ? "..the basic productivity of the land would be protected for wildlife and other resources." How will it be protected?

[[ID#23]
Response: [Seq#23]

Cattle would not graze more intensely in the newly created forage because it would have previously been overstocked forest stands with dense canopies. Previous to the newly created forage the cattle would favor the open forest stands, south facing slopes, meadows, and areas along roads. Post project, they would continue to graze these areas in addition to the newly created forage. The basic productively of the land would be protected because the additional forage would distribute livestock use patterns more evenly, reducing overall livestock utilization levels across the grazing allotment leaving enough forage for wildlife. EA Range section 3.10.4.3.

[ID#23]
Associated Comments: [Seq#23]
Page 258, 219.8(b)(2). "Additional forage would distribute livestock use more evenly..." How will the cows know not to just graze more intensely on the newly created forage ? "..the basic productivity of the land would be protected for wildlife and other resources." How will it be protected? [4-25]

Concern: [Seq#24]

]

It appears that the FS caters to the cattle industry regardless of the extensive harm done to the native populations and their environment. From my point of view cattle are an invasive specie. How do we get rid of them? [ID#24]
Response: [Seq#24]

The respondent's opinion is noted. The effects of livestock grazing in the project area were analyzed in the recent Libby, Little Bridge, Newby, and Poorman Allotment Management Plan (AMP) Revision. This plan provides for making changes to livestock management as needed. Eliminating or reducing grazing is

outside of the scope of the project because current grazing activities and associated impacts are addressed in the AMP. (Draft EA Figure 5. Mission Restoration Project Issues, page 16) [ID#24]

Associated Comments: [Seq#24]

It appears that the FS caters to the cattle industry regardless of the extensive harm done to the native populations and their environment. From my point of view cattle are an invasive specie. How do we get rid of them? [6-7]

Concern: [Seq#25]

"Harvest would occur along the drainage bottoms in five areas: Smith Canyon, Elderberry Creek, Chicamun Creek, Mission Creek, and Hornet Draw." ""In the the longer term, harvest will remove shading by trees and encourage growth of shrubs used as forage, providing more food resources available to deer." "..the Libby Creek block has private residences in the area..."

[These areas comprise the Libby Creek Grazing Allotment covered by the designed 2008 Revised AMP referred to above. This planned project includes continuing cattle grazing of this allotment and would assure that cattle would continue to negatively impact the riparian zones of these drainages with their attraction by water and increased available transitional forage.

[[ID#25]

Response: [Seq#25]

The respondent's text in quotations was not found in the EA. Regardless, alternatives 2 and 3 would have no-harvest buffers of 50 to 100 feet for intermittent and perennial streams or operations would occur in winter (Project Design Feature 79). Winter logging and no-harvest buffers would attain riparian management objectives. The "encouraged growth of shrubs" providing more forage for deer would be outside of the riparian buffers. Opening forest stands in the uplands outside of riparian reserves would increase available forage and would likely draw cattle away from the riparian area. The number of cattle that access riparian areas may decrease, because grazing distribution patterns would improve in the uplands. Even though the more open stands could allow easier access to riparian areas, no additional use of riparian areas is expected because cattle distribution would be improved and direct access to streams would be restricted by riparian vegetation along streams. (Draft EA Section 3.10 Range, pages 258-276) of the Revised Preliminary EA. [ID#25]

Associated Comments: [Seq#25]

"Harvest would occur along the drainage bottoms in five areas: Smith Canyon, Elderberry Creek, Chicamun Creek, Mission Creek, and Hornet Draw." ""In the the longer term, harvest will remove shading by trees and encourage growth of shrubs used as forage, providing more food resources available to deer." "..the Libby Creek block has private residences in the area..." [These areas comprise the Libby Creek Grazing Allotment covered by the designed 2008 Revised AMP referred to above. This planned project includes continuing cattle grazing of this allotment and would assure that cattle would

continue to negatively impact the riparian zones of these drainages with their attraction by water and increased available transitional forage. [7-5]

Concern: [Seq#26]

Thinning treatments would create a more open landscape where understory herbaceous vegetation would eventually grow contributing to fuel loading."

[The provision for increased transition forage is to protect Cattlemen's Association interest in retaining the Libby Creek Allotment, not to reduce fire risks of local residents. [ID#26]

Response: [Seq#26]

The respondent's opinion is noted. The fire risk to local residents would be reduced because the flame lengths created by these fuels (understory herbaceous vegetation) would be less than those created by torching trees that is currently more likely. Openings in the tree canopy would allow for more successful use of retardant to limit fire spread. By reducing wildfire risks near private lands and increasing the likelihood of successful suppression actions in the WUI, thinning as a result of this amendment would help increase sustainability of local communities in the WUI. (EA page 168) [ID#26]

Associated Comments: [Seq#26]

Thinning treatments would create a more open landscape where understory herbaceous vegetation would eventually grow contributing to fuel loading." [The provision for increased transition forage is to protect Cattlemen's Association interest in retaining the Libby Creek Allotment, not to reduce fire risks of local residents.] [7-36]

Concern: [Seq#27]

Management objectives would be met to protect rangeland resources and continue the management of the affected grazing Allotment while providing for forest health." ",,,in a sustainable manner." "It would promote a more open stand structure and increase understory forage that would be available as transitory range." "...the basic productivity of the land would be protected for wildlife and other resources."

[Forest health has not been provided for "in a sustainable manner". Cattle grazing has been identified in a number of Forest reports, including this EA, as one of the contributing factors to degraded riparian zones, soil erosion, and long-term adverse effects on aquatic habitat. It has never been sustainable since it is dependent on "transitory forage" with a history of a continuing decrease in forage, the number of cattle permitted, overgrazing in drainage bottoms, and failure of permittees to manage within the limits

of permit stipulations. The productivity of the land has not been protected for wildlife and other resources. Streams have been reduced in their capacity to sustain populations of fishes; a restored grey wolf pack was decimated as a result of the presence of cattle; and old growth timber stands have not developed with repeated timber harvests. The amendment of the mule deer winter range S&G will decrease their protection. [ID#27]

Response: [Seq#27]

The respondent's opinion is noted. Allotment inspections, resource condition assessments, and mid and end of season monitoring are conducted by the Forest Service on the grazing allotment included in the project area each year. Upland forage use and riparian use by cattle within the project area is meeting Forest Plan standards with few exceptions. The designated monitoring areas are chosen to be representative of a larger stream or meadow area or the most representative upland areas. The Okanogan National Forest Plan and The Northwest Forest Plan with its standards and guidelines establishes all natural resource management activities on the forest. Current grazing management is meeting Forest Plan Guidance. (EA Section 3.10 Range, pages 258-276) [ID#27]

Associated Comments: [Seq#27]

"Management objectives would be met to protect rangeland resources and continue the management of the affected grazing Allotment while providing for forest health." ",,,in a sustainable manner." "It would promote a more open stand structure and increase understory forage that would be available as transitory range." "...the basic productivity of the land would be protected for wildlife and other resources." [Forest health has not been provided for "in a sustainable manner". Cattle grazing has been identified in a number of Forest reports, including this EA, as one of the contributing factors to degraded riparian zones, soil erosion, and long-term adverse effects on aquatic habitat. It has never been sustainable since it is dependent on "transitory forage" with a history of a continuing decrease in forage, the number of cattle permitted, overgrazing in drainage bottoms, and failure of permittees to manage within the limits of permit stipulations. The productivity of the land has not been protected for wildlife and other resources. Streams have been reduced in their capacity to sustain populations of fishes; a restored grey wolf pack was decimated as a result of the presence of cattle; and old growth timber stands have not developed with repeated timber harvests. The amendment of the mule deer winter range S&G will decrease their protection.] [7-41]

Concern: [Seq#28]

Mike Liu's letter of June 28, 2017 that announces the new comment period for the Revised Preliminary EA states "This opportunity to comment applies only to the analysis associated with the proposed Forest Plan amendment, which has been included in the revised preliminary Environmental Assessment for this project." However, are there changes in the revised Preliminary EA that are not directly related to the proposed amendment? [ID#28]

Response: [Seq#28]

The only substantive changes in the Environmental Assessment were detailed in that letter.

There was one change that was not related to the Forest Plan amendment. The botany write-up, in the June 2017 version, was changed to describe the acres of aspen affected by the aspen commercial thinning prescription. The botanists had not described the beneficial effect of this thinning on the resource indicators related to aspen that tie to her resource and the Purpose & Need on unique habitats. None of the acres of this treatment changed, but the acres of her resource indicators affected by aspen thinning changed - and beneficially. This change had nothing to do with thinning in deer winter range cover. It was not a new treatment, it's a non-substantive clarification of effects by the botanist. Changes to the aspen information are not seen in the Figure in Chapter 2 or in the Figure in Appendix A of the EA. [ID#28]

Associated Comments: [Seq#28]

Mike Liu's letter of June 28, 2017 that announces the new comment period for the Revised Preliminary EA states "This opportunity to comment applies only to the analysis associated with the proposed Forest Plan amendment, which has been included in the revised preliminary Environmental Assessment for this project." However, are there changes in the revised Preliminary EA that are not directly related to the proposed amendment? [4-30]

Concern: [Seq#29]

Contributing to the ways the public is being discouraged from participating in the planning process, District Ranger Michael Liu has instructed his staff not to answer questions about the Mission Project until the final EA has been released. Given that the massive, repetitious Draft EA document and its revision contain thousands of pages, much redundancy, and no clear summary of the substantive changes proposed, it is not clear that the public is being included in the planning process in good faith. In addition, the Forest Service has restricted access to key documents that help to understand the impacts of this proposal (such as analysis of the behavior and impacts of the 2014 Carlton Complex fire) to those willing to file a Freedom of Information Act request (a tiny portion of the public). [ID#29]

Response: [Seq#29]

The Forest Service tries to respond to public requests within a reasonable timeframe, but that may take several days due to other priorities.

The June 28, 2017 cover letter from the District Ranger listed the 31 pages that contained substantial changes from the previous version of the document. The body of the Environmental Assessment is about 314 pages long, with an additional 126 pages of appendices included not thousands of pages.

Requiring the filing of a FOIA request gives the District a method of tracking how much and what material has been provided to the public. It also provides a method that requires the Forest Service to respond to public requests. [ID#29]

Associated Comments: [Seq#29]

Contributing to the ways the public is being discouraged from participating in the planning process,

District Ranger Michael Liu has instructed his staff not to answer questions about the Mission Project until the final EA has been released. Given that the massive, repetitious Draft EA document and its revision contain thousands of pages, much redundancy, and no clear summary of the substantive changes proposed, it is not clear that the public is being included in the planning process in good faith. In addition, the Forest Service has restricted access to key documents that help to understand the impacts of this proposal (such as analysis of the behavior and impacts of the 2014 Carlton Complex fire) to those willing to file a Freedom of Information Act request (a tiny portion of the public). [5-2]

Concern: [Seq#30]

Page 276, 219.8(a)(1)(iv) Soil impacts and invasion of invasive species is critical, yet the assurance here is that the Design Criteria would be part of the mitigation, yet there is no funding for anyone to oversee the Design Criteria which makes it useless. [ID#30]

Response: [Seq#30]

The Timber Sale Administrator (TSA) as well as the North Zone Soil Scientist would have oversight over soil impacts and the TSA would have oversight over much of the Design Criteria. There would be funding for this oversight. (see Appendix D) [ID#30]

Associated Comments: [Seq#30]

Page 276, 219.8(a)(1)(iv) Soil impacts and invasion of invasive species is critical, yet the assurance here is that the Design Criteria would be part of the mitigation, yet there is no funding for anyone to oversee the Design Criteria which makes it useless. [4-26]

Concern: [Seq#31]

-Is there a plan for reseeding/reforesting this 50,000 acre tract that will be denuded and susceptible to whatever invasive specie seeds that find their way to the disturbed soil?

[[ID#31]

Response: [Seq#31]

The plan for reseeding is in Appendix D: Design Features, Best Management Practices, Mitigation, and Monitoring (see items 9 and 34). Areas of heavily disturbed soils (including landings, main skid trails, decommissioned temporary roads, and constructed road cut and fill slopes) would be reseeded. Seeding

on landings would be done by the timber sale purchaser prior to pile burning. Seeding and rehabilitation under the burn pile footprint would occur post-burning by District fuels, botany, or invasive plant staff. Seeding need determinations would be made according to guidelines established by the Soils Scientist, District Botanist, and/or Invasive Weeds Coordinator. Reforestation is only planned for the 80 acres identified for Variable Retention Regeneration treatment (See preliminary EA page 310 and Appendix D, items 29, 30 and 31). [ID#31]

Associated Comments: [Seq#31]

-Is there a plan for reseeding/reforesting this 50,000 acre tract that will be denuded and susceptible to whatever invasive specie seeds that find their way to the disturbed soil? [6-24]

Concern: [Seq#32]

Michael Liu states in the letter some of us received notifying us of the new comment period that "This opportunity to comment applies only to the analysis associated with the Forest Plan amendment"; however changes have been made to the Draft EA beyond this topic, notably, according to Meg Trebon, "in the original preliminary EA, the discussion on the effects of proposed thinning on aspen habitat did not include the acres of proposed commercial thinning treatments that have the Aspen prescription, so the acres of aspen habitat affected by the proposed action were changed to include these treatment acres and more information on effects of this treatment were added to the botany section." It does not appear that the aspen prescription is only in deer winter range. The public will have no opportunity to comment on this new information while it is in draft form. In addition, the rationalization offered for the "substantive changes affected by proposed amendment" includes essentially all of the reasons offered for the commercial overstory logging in the first place. How is the public to understand the limits Mr. Liu is placing on this comment period? [ID#32]

Response: [Seq#32]

Changes to the aspen information are not seen in the Figure in Chapter 2 or in the figure in Appendix A of the EA. The botany write-up, in the latest version, was changed to describe the acres of aspen affected by the aspen commercial thinning prescription. The botanists had not described the beneficial effect of this thinning on the resource indicators related to aspen that tie to her resource and the Purpose & Need on unique habitats. None of the acres of this treatment changed, but the acres of her resource indicators affected by aspen thinning changed - and beneficially. This change had nothing to do with thinning in deer winter range cover. It was not a new treatment, it's a non-substantive clarification of effects by the botanist. [ID#32]

Associated Comments: [Seq#32]

Michael Liu states in the letter some of us received notifying us of the new comment period that "This opportunity to comment applies only to the analysis associated with the Forest Plan amendment"; however changes have been made to the Draft EA beyond this topic, notably, according to Meg Trebon, "in the original preliminary EA, the discussion on the effects of proposed thinning on aspen habitat did not include the acres of proposed commercial thinning treatments that have the Aspen prescription, so the acres of aspen habitat affected by the proposed action were changed to include these treatment

acres and more information on effects of this treatment were added to the botany section." It does not appear that the aspen prescription is only in deer winter range. The public will have no opportunity to comment on this new information while it is in draft form. In addition, the rationalization offered for the "substantive changes affected by proposed amendment" includes essentially all of the reasons offered for the commercial overstory logging in the first place. How is the public to understand the limits Mr. Liu is placing on this comment period? [5-3]

Concern: [Seq#33]

Winter logging would be extremely dangerous for residents, loggers and recreation activities on Libby Creek Road and Black Pine Lake Road. T**he planned commercial log hauling over the narrow snow and ice covered roads would put the local owners of private residences and their children at risk.** [ID#33]

Response: [Seq#33]

Roads in the project area maintained by Okanogan County are outside of the scope of the project because they are not within the jurisdiction of the Forest Service. The Forest Service has had several discussions with the Okanogan County Commissioners about this project including the issue of public safety. Most travel by private landowners would be on roads maintained by Okanogan County.

Recreationists and local residents could encounter logging traffic. Most logging roads, except main haul routes such as Forest Roads 4300000, 4340000, and 4300300, will remain closed to the general public to minimize traffic conflicts and impacts to wildlife. Log hauling and heavy equipment moving during weekends and holidays is prohibited, without prior approval from the Forest Service beginning Memorial Day weekend through Labor Day weekend and also during the general rifle hunting season. The safety of the area would be beneficially improved by the reduction of wildland fuels creating safer escape routes, more direct fire suppression conditions, and an increased ability to protect homes and other structures in the area.

Contractors and Forest Service drivers are responsible to follow agency Road Use Rules and State Laws. Most National Forest Service system roads proposed for commercial timber haul would either be reconstructed by the project or have pre-haul, during project, and post-haul road maintenance making use of these roads more safe.

A proposed project to reconstruct about 5 miles of the Buttermilk Road, Forest Road 43, to Blackpine Lake was not awarded in 2017 since all bids came in at about twice available funding. [ID#33]

Associated Comments: [Seq#33]

Surprisingly, in section 3.15.6, "Public Health and Safety", no mention is made of the biggest safety concern of local residents-- the presence of logging trucks and related traffic on icy roads, and the potential for a serious accident. Given the number of times this topic has been brought up to the Forest Service, it is not clear what benefit is derived from not addressing it. Is this document really claiming

that there is no increase in risk to the public with heavily loaded log trucks running on these mountain roads under winter driving conditions? [5-10]

Winter logging would be extremely dangerous for residents, loggers and recreation activities on Libby Creek Road and Black Pine Lake Road. [6-9]

In addition, the planned commercial log hauling over the narrow snow and ice covered roads would put the local owners of private residences and their children at risk. [7-7]

Concern: [Seq#34]

Proposed Forest Plan Amendment "In this revised preliminary EA, the project proposed includes one project specific, non-significant, temporary amendment that would allow proposed thinning treatments on 746 acres to reduce deer winter range to levels below Forest Plan Standards and Guidelines (S&G) to meet restoration, sustainability, forest health, and wildfire hazard reduction objectives.."

[This long run-on sentence is a misleading attempt to justify an amendment which would allow multiple adverse environmental effects.

The "proposed thinning" consists of a commercial logging operation; all other "restoration" actions are dependent on future public funding allocations. Focusing on the small acreage of reduced deer winter range is an attempt to avoid consideration of the environmental impact on the riparian zones of five subdrainages and the Libby Creek watershed. Logging those areas would increase forage for an individual cattle permittee and would not be sustainable without repeated "treatments". [ID#34]

Response: [Seq#34]

Figure 132 and pages 294 and 295 of the January 2007 Preliminary EA indicate that the timber sale could potentially contribute $310,000 to non-timber sale projects under a Stewardship Contract to supplement or support other planned projects..

Commercial thinning harvest will happen under some type of timber sale contract; likely a Stewardship type of contract. A stewardship type of contract has the advantage of providing funding from timber sale receipts to contribute to the development of sustainable rural communities, restore and maintain healthy forest ecosystems, and provide a continuing source of local income and employment. Stewardship contracts allow the Forest Service to apply the value of timber or other forest products removed as an offset against the cost of services received, applying excess receipts from a project such as Mission Restoration to other authorized stewardship projects. Stewardship contracts may be used for treatments to improve, maintain, or restore forest and rangeland health; restore or maintain water quality; improve fish and wildlife habitat; noxious weed abatement; road and stream restoration; road improvement and culvert replacement; and reduce hazardous fuels that pose risks to communities and

ecosystem values. Discussions have also been taking place with State agencies, tribal governments, and others as possible funding sources for non-timber contract work.

It is an unfortunate reality that the FS does not have the resources to fully fund all proposed actions. While roads used for timber harvest will be rehabilitated or decommissioned post-harvest as part of the contract, the other roads slated for closure or decommissioning will be completed as funded becomes available. This may come through the FS or may be provided by partners. Thank you for your comment and we agree that the funding issue is a difficult one. Most road decommissioning identified in an Environmental document as available for implementation are funded within a short-time and carried out on the Methow Valley Ranger District.

The environmental effects of this proposed harvest are displayed throughout the different resource sections of Chapter 3 and in Specialists Reports post on the project website and in the administrative record in District files.

Project treatments will increase transitory range. That is one resource effect of the project. Increasing the permitted number of cattle on range allotments within the project area is not considered in this analysis and is not proposed. [ID#34]

Associated Comments: [Seq#34]

Proposed Forest Plan Amendment "In this revised preliminary EA, the project proposed includes one project specific, non-significant, temporary amendment that would allow proposed thinning treatments on 746 acres to reduce deer winter range to levels below Forest Plan Standards and Guidelines (S&G) to meet restoration, sustainability, forest health, and wildfire hazard reduction objectives.." [This long run-on sentence is a misleading attempt to justify an amendment which would allow multiple adverse environmental effects. The "proposed thinning" consists of a commercial logging operation; all other "restoration" actions are dependent on future public funding allocations. Focusing on the small acreage of reduced deer winter range is an attempt to avoid consideration of the environmental impact on the riparian zones of five subdrainages and the Libby Creek watershed. Logging those areas would increase forage for an individual cattle permittee and would not be sustainable without repeated "treatments".] [7-9]

Concern: [Seq#35]

Who will benefit and who will lose from the amendment to the Okanogan National Forest Land Resource Management Plan Standard and Guidelines? WHO BENEFITS? *Logging Company *Cattle Ranchers *USFS *Monsanto WHO LOSES? *The Public of the Methow Valley * Sustainable Aquatic Environment in Libby Creek and Buttermilk Watersheds *Forest/CO2 *Mule Deer Thermal Cover on 746 acres *Mule Deer Predators *Forest Recreation *Environmental Health of Watersheds/Short Term and Long Term *Safety of Libby Creek Watershed Residents In spite of having spent the last few years of my life devoting much of my time and energy to understanding this project I am still confounded on many aspects. [ID#35]

Response: [Seq#35]

Thank you for your comment. The effects of the project on different resource areas is described in Chapter 3 of the Environmental Assessment and in specific Resource Reports available on the project website and in the administrative records for this project [ID#35]

Associated Comments: [Seq#35]

Who will benefit and who will lose from the amendment to the Okanogan National Forest Land Resource Management Plan Standard and Guidelines? WHO BENEFITS? *Logging Company *Cattle Ranchers *USFS *Monsanto WHO LOSES? *The Public of the Methow Valley * Sustainable Aquatic Environment in Libby Creek and Buttermilk Watersheds *Forest/CO2 *Mule Deer Thermal Cover on 746 acres *Mule Deer Predators *Forest Recreation *Environmental Health of Watersheds/Short Term and Long Term *Safety of Libby Creek Watershed Residents In spite of having spent the last few years of my life devoting much of my time and energy to understanding this project I am still confounded on many aspects. [6-10]

Concern: [Seq#36]

"Across two decades and thousands of pages of reports, the world's most authoritative voice on climate science has consistently understated the rate and intensity of climate change and the danger those impacts represent, say a growing number of studies on the topic." [Climate Science Predictions Prove Too Conservative: Checking 20 years worth of projections shows that the Intergovernmental Panel on Climate Change has consistently underestimated the pace and impacts of global warming, by Glenn Scherer in Scientific American, originally published in DailyClimate.org, Dec. 6, 2012. https://www.scientificamerican.com/article/climate-science-predictions-prove-too-conservative/]. To clarify, none of the questions which I pose above are intended to be rhetorical in nature. Since the EA and Revised EA speak so authoritatively and indicate a prescience unseen in many other scientific quarters, I expect that you are able to readily provide the sources which lead you to your conclusions. I eagerly await your specific responses to the questions which I am posing. [ID#36]

Response: [Seq#36]

As stated in the on-line article, peer reviewed science is generally a little conservative, but the article quoted only looked at a period of 13 years and not the longer period considered by the IPCC assessment.

Some experts point out that natural cycles in Earth's orbit can alter the planet's exposure to sunlight, which may explain the current trend. The Earth has indeed experienced warming and cooling cycles roughly every hundred thousand years due to these orbital shifts, but such changes have occurred over the span of several centuries. Today's changes have taken place over the past hundred years or less.

While thermostat readings have consistently shown a temperature rise over the past hundred years, tree-ring samples may show temperature increases stalling around 1960.

Climate Change, Greenhouse Gases and Carbon Sequestration are discussed in Section 3.15.4 starting on page 303 of the June 2017 Preliminary Environmental Assessment.

The Environment Assessment is based on peer reviewed science. The sources used are listed in Appendix E, Literature Cited, starting on page 388 of the June 2017 Preliminary Environmental Assessment. [ID#36]

Associated Comments: [Seq#36]

"Across two decades and thousands of pages of reports, the world's most authoritative voice on climate science has consistently understated the rate and intensity of climate change and the danger those impacts represent, say a growing number of studies on the topic." [Climate Science Predictions Prove Too Conservative: Checking 20 years worth of projections shows that the Intergovernmental Panel on Climate Change has consistently underestimated the pace and impacts of global warming, by Glenn Scherer in Scientific American, originally published in DailyClimate.org, Dec. 6, 2012. https://www.scientificamerican.com/article/climate-science-predictions-prove-too-conservative/]. To clarify, none of the questions which I pose above are intended to be rhetorical in nature. Since the EA and Revised EA speak so authoritatively and indicate a prescience unseen in many other scientific quarters, I expect that you are able to readily provide the sources which lead you to your conclusions. I eagerly await your specific responses to the questions which I am posing. [3-7]

Concern: [Seq#37]

Since the amendment would affect up to 54 percent of the proposed commercial thinning units, the employment opportunities and volume of timber would be approximately the same percentage of employment opportunities and volume for all proposed commercial thinning , or 3.4 mbf in volume and 45 FTE jobs." [This analysis does not consider jobs foregone from fisheries, wildlife observation, and other recreational activities or the economic efficiency of the project based on expenses incurred (costs of all included actions and management) and economic benefits (product values). [ID#37]

Response: [Seq#37]

The above section is being reviewed to check the numbers given. The amendment would affect approximately 38% of the harvest treatment acres. Using your assumptions this could be up to 2.4 mmbf of volume and 32 FTEs Estimating the protection of non-market resource values is difficult The number of jobs foregone from fisheries, wildlife observation, and other recreational values is estimated to be small since most of these activities will likely continue in adjacent areas or would only be impacted in the short-term. [ID#37]

Associated Comments: [Seq#37]

"Since the amendment would affect up to 54 percent of the proposed commercial thinning units, the employment opportunities and volume of timber would be approximately the same percentage of employment opportunities and volume for all proposed commercial thinning , or 3.4 mbf in volume and 45 FTE jobs." [This analysis does not consider jobs foregone from fisheries, wildlife observation, and other recreational activities or the economic efficiency of the project based on expenses incurred (costs of all included actions and management) and economic benefits (product values). [7-43]

Concern: [Seq#38]

Consider the misleading information provided to the interested publics including the Mission designation when the Mission Creek portion of the project is a small percentage of the bottoms of 5 sub-drainages within the Libby Creek watershed that is affected (see Fig. 1).

The "scientific understanding" presented is also misleading [ID#38]

Response: [Seq#38]

This project was named after Mission Peak which is a prominent feature in the project area. Libby Creek and Buttermilk Creek are the main drainages in the project area which drain into the Twisp and Methow Rivers.

The Environment Assessment is based on peer reviewed science. The sources used are listed in Appendix E, Literature Cited, starting on page 388 of the June 2017 Preliminary Environmental Assessment. [ID#38]

Associated Comments: [Seq#38]

"...The Forest Service has identified a need to amend the 1989 Okanogan Forest Plan to better reflect current conditions and scientific understanding regarding necessary vegetation management within the Mission Restoration Project area." [See earlier comments regarding the need to not amend and initiate this project on the basis of the long-term adverse effects the planned actions would produce. In addition, consider the misleading information provided to the interested publics including the Mission designation when the Mission Creek portion of the project is a small percentage of the bottoms of 5 sub-drainages within the Libby Creek watershed that is affected (see Fig. 1). The "scientific understanding" presented is also misleading (see earlier comments). [7-44]

Concern: [Seq#39]

Aren't there better ways to restore the forest and aquatic systems, since all the proposed actions of the FS have short term and long term negative impacts on these watersheds? I don't think you can have it both ways-either the FS is doing everything it can to save the forest, animals, humans and fish or the FS is overlooking lots of ecological information available outside of their "best available science" that would inform the FS that your proposed actions are fallacious in nature and based on outdated science. There is no sign that the FS has taken any comments made from the public, since the beginning of this process, into consideration. [ID#39]

Response: [Seq#39]

The main objectives of this project is landscape restoration, wildfire hazard reduction, and transportation system management. The intent of the project is to evaluate the analysis area and prescribe and implement a set of treatments that rely on the principles of landscape and stand-level restoration ecology, wildfire hazard reduction, and transportation system management while meeting the direction of the amended Okanogan National Forest Land and Resource Management Plan and the Forest Restoration Strategy, to the extent feasible. Proposed treatments are designed to re-establish ecological processes, patterns, and functions to restore Libby and Buttermilk Creek landscapes to be more resilient to disturbance such as wildfire and changing climates, reduce wildfire hazards in the Wildland-Urban Interface (WUI), and manage the existing transportation system. The long- and short-term impacts of this proposal are displayed in the EA, particularly in Chapter 3 and in baseline reports in the project record.

The Forest Service has reviewed and considered "available peer-reviewed science" that we have received in comments. The Forest Service has considered comments received from the public, since the beginning pf this process and considered them. [ID#39]

Associated Comments: [Seq#39]

Aren't there better ways to restore the forest and aquatic systems, since all the proposed actions of the FS have short term and long term negative impacts on these watersheds? I don't think you can have it both ways-either the FS is doing everything it can to save the forest, animals, humans and fish or the FS is overlooking lots of ecological information available outside of their "best available science" that would inform the FS that your proposed actions are fallacious in nature and based on outdated science. There is no sign that the FS has taken any comments made from the public, since the beginning of this process, into consideration. [6-17]

Concern: [Seq#40]

The Forest Service lacks good faith to the public regarding environmental costs of the project/amendment, as demonstrated by the fact that the entire document never finds one resource, one unit, or one treatment that would have a long term, adverse, moderate or major impact. It is suspicious that the effects always use a combination of impact terms that make the action reasonable, more than reasonable, or actually brilliant. Any long term effects, the Forest Service states, are beneficial. [ID#40]

Response: [Seq#40]

An individual would need to look at Figure 11, Comparison of Alternatives by Resource Indicator, which is a summary of impacts and shows indicators of some of the environmental costs of the project. Examples are Ground cover (page. 30), Detrimental surface erosion/mass wasting and compaction, rutting, puddling (page 31), Percent of Forest Service roads greater than 1/2 mile in length providing access for veg/fire (page 33), in the Wildlife Section (pages 34 & 35), in the Transportation Section (pages 35 and 36), in the Botany Section (page 36), in Range (page 37), in Invasive species (page 37 and 38), in Recreation and Scenic Resources (page 38), and in Air Quality (page 38). This same information is

shown throughout Chapter 3. [ID#40]

Associated Comments: [Seq#40]

The Forest Service lacks good faith to the public regarding environmental costs of the project/amendment, as demonstrated by the fact that the entire document never finds one resource, one unit, or one treatment that would have a long term, adverse, moderate or major impact. It is suspicious that the effects always use a combination of impact terms that make the action reasonable, more than reasonable, or actually brilliant. Any long term effects, the Forest Service states, are beneficial. [4-5]

Concern: [Seq#41]

The revised preliminary EA claims its proposed amendment is "non-significant, temporary" and will meet "restoration, sustainability, forest health, and wildfire hazard reduction objectives"; . Each of these claims deserves consideration. [ID#41]

Response: [Seq#41]

Each of these claims is considered throughout the Environmental Assessment. Some of the specific information is shown in (June 2017 Preliminary EA) Section 2.3, Forest Plan Amendments, on pages 24 - 27, in Chapter 3 starting on page 39 in specific resource sections, and in Section 3.16, Substantive Provisions Affected by Proposed Amendment, pages 307 through 311.

The wildlife section of Chapter 3, Section 3.7 starting on page 170 (June 2017 Preliminary EA) fully describes the effect of the proposed Forest Plan amendment on winter range (mule deer); specifically pages 180 - 181, 184, 186, 198 - 199, 205-214, and 307 - 311. [ID#41]

Associated Comments: [Seq#41]

The revised preliminary EA claims its proposed amendment is "non-significant, temporary" and will meet "restoration, sustainability, forest health, and wildfire hazard reduction objectives"; . Each of these claims deserves consideration. [5-5]

Concern: [Seq#42]

Regarding the proposed Forest Plan amendment, the revised preliminary EA (section 2.3.1) begins its discussion of the topic by stating that "Forest Plan amendments are

intended to be an adaptive management tool

to keep forest plans current, effective, and relevant between forest plan revisions" (emphasis added). Effective implementation of adaptive management requires a stringent and accurate research and monitoring program that ties actual effects of management activities into a feedback process that allows the agency to modify those activities. The EA proposes no such monitoring and feedback loop, or willingness to modify, the most environmentally damaging activities in the project area-- namely, cattle grazing, fire suppression, logging, and sedimentation from these uses and roads. Instead, the amendment that is proposed has the purpose of expediting overstory logging, and increasing forage for damaging grazing. What best available science does the Forest Service claim supports that this amendment should be given priority over amendments to change harmful fire suppression, or destructive grazing (which this proposed amendment will encourage rather than limit)?

Design Criterion, Mitigation Measures, and Monitoring "Monitoring would occur during implementation and to assess potential impacts caused by project activities."

[Are funds for monitoring assured or dependent on future public allocations? Would adverse impacts only be monitored after they are documented for this project? How can long-term adverse impacts be determined and avoided? [ID#42]

Response: [Seq#42]

Appendix D: Design Features, Best Management Practices, Mitigation, and Monitoring includes approximately 78 implementation monitoring measures that the Forest Service is committing to complete for this project. Based on these implementation monitoring measures, the Interdisciplinary Team will be able to review and improve implementation (adaptive management) of future projects. The Forest also has an Okanogan-Wenatchee National Forest Transition Monitoring Plan - 2016 which looks at monitoring on a larger scale to address effectiveness and validation of assumptions such as for the Restoration Strategy. Much of this monitoring is to be carried out at the wider scale by such individuals as the Forest Hydrologist, Forest Fisheries Biologist, Road Manager-Engineering, Forest Fire Ecologist, Forest Fuels Program Manager, etc. The potential data sources for some of this monitoring are the National Watershed Condition Framework, individual project level Travel Analysis Processes (TAP), BMP database and monitoring reports, stream temperature monitoring, stream flow data, stream survey data, NEPA project review to determine consistency with Forest Plan Standards and Guidelines, INFRA database, FACTS database, treatment acres, PIBO monitoring for rangeland health, riparian vegetation condition and trend transects, survey and manage data collection, etc. Much of this Forest-wide monitoring data is collected at the project level and combined and analyzed at the Forest level which is used to adapt Forest-wide management. The Forest Service tries to learn to modify policy and management Some regulations, such as NEPA and ESA, are relatively inflexible in their requirements, and thus making rapid adaptions to monitoring results somewhat difficult.

Monitoring reports for the Okanogan Forest Plan were published in 2001, 2002, 2003, 2004, 2005, 2006. 2007, 2008, and 2010. The Forest also has an Okanogan-Wenatchee National Forest Transition Monitoring Plan - 2016.

Research is not decided at the Ranger District or project level. Research is carried out by PNW. Peer reviewed research over the past 30 years was reviewed and considered in he Forest Plan amendment for deer winter range on this project.

This project is not proposing to change range management in the project area. An effect of the project is that transitory range forage will be created, but that is not a Purpose and Need for Action.. [ID#42]

Associated Comments: [Seq#42]

Regarding the proposed Forest Plan amendment, the revised preliminary EA (section 2.3.1) begins its discussion of the topic by stating that "Forest Plan amendments are intended to be an adaptive management tool to keep forest plans current, effective, and relevant between forest plan revisions" (emphasis added). Effective implementation of adaptive management requires a stringent and accurate research and monitoring program that ties actual effects of management activities into a feedback process that allows the agency to modify those activities. The EA proposes no such monitoring and feedback loop, or willingness to modify, the most environmentally damaging activities in the project area-- namely, cattle grazing, fire suppression, logging, and sedimentation from these uses and roads. Instead, the amendment that is proposed has the purpose of expediting overstory logging, and increasing forage for damaging grazing. What best available science does the Forest Service claim supports that this amendment should be given priority over amendments to change harmful fire suppression, or destructive grazing (which this proposed amendment will encourage rather than limit)? [5-4]

Design Criterion, Mitigation Measures, and Monitoring "Monitoring would occur during implementation and to assess potential impacts caused by project activities." [Are funds for monitoring assured or dependent on future public allocations? Would adverse impacts only be monitored after they are documented for this project? How can long-term adverse impacts be determined and avoided?] [7-13]

Concern: [Seq#43]

It would negatively impact those mule deer, their predators (including ESA-listed species), and the human residents that share the watershed. This is proposed under the guise of 1) WUI fire protection in a watershed without any "urban zone", and 2) increased forage for wildlife without any evidence of this being a limiting factor, while providing increased forage to justify maintaining a cattle grazing allotment. In addition it would threaten the lives of human watershed resident families with commercial log hauling on narrow snow and ice covered roads during proposed winter timber harvesting. [ID#43]

Response: [Seq#43]

The impacts on mule deer and their predators is shown in Chapter 3 in Section 3.7, Wildlife and in the Wildlife baseline reports in the project record and on the Forest website under this project. The WUI

boundary, including this area, was identified by Okanogan County. This project is not being done to maintain a cattle grazing allotment, though an effect of this project will be the creation of additional transitory range, in the short-term.

Roads in the project area maintained by Okanogan County are outside of the scope of the project because they are not within the jurisdiction of the Forest Service. The Forest Service has had several discussions with the Okanogan County Commissioners about this project including the issue of public safety. Most travel by private landowners would be on roads maintained by Okanogan County.

Recreationists and local residents could encounter logging traffic. Most logging roads, except main haul routes such as Forest Roads 4300000, 4340000, and 4300300, will remain closed to the general public to minimize traffic conflicts and impacts to wildlife. Log hauling and heavy equipment moving during weekends and holidays is prohibited, without prior approval from the Forest Service beginning Memorial Day weekend through Labor Day weekend and also during the general rifle season. The safety of the area would be beneficially improved by the reduction of wildland fuels creating safer escape routes, more direct fire suppression conditions, and an increased ability to protect homes and other structures in the area.

Contractors and Forest Service drivers are responsible to follow agency Road Use Rules and State Laws. Most National Forest Service system roads proposed for commercial timber haul would either be reconstructed by the project or have pre-haul, during project, and post-haul road maintenance making use of these roads more safe.

A proposed project to reconstruct about 5 miles of the Buttermilk Road, Forest Road 43, to Blackpine Lake was not awarded in 2017 since all bids came in at about twice available funding. [ID#43]

Associated Comments: [Seq#43]

It would negatively impact those mule deer, their predators (including ESA-listed species), and the human residents that share the watershed. This is proposed under the guise of 1) WUI fire protection in a watershed without any "urban zone", and 2) increased forage for wildlife without any evidence of this being a limiting factor, while providing increased forage to justify maintaining a cattle grazing allotment. In addition it would threaten the lives of human watershed resident families with commercial log hauling on narrow snow and ice covered roads during proposed winter timber harvesting. [7-2]

Concern: [Seq#44]

Once this project gets rolling, without funds other than "the trees paying their way out of the forest," how will the public be informed of fund-allocation and the progress of the project? And how will the public know if the mule deer and their predators, the ESA listed salmonids and the riparian zone and all the other mammals, fish and birds are faring with all the changes to their environment which really is not "insignificant." [ID#44]

Response: [Seq#44]

It seems relatively difficult for the public to be aware of fund allocation and the progress of other portions of the project besides the harvest and fuels operations on a particular project. The District provides numerous news releases each year of activities that are happening on the Methow Valley Ranger District, Other information is provided in such reports as the yearly Accomplishment Overview for the Forest. The North Zone Districts also yearly publish fuels treatments proposed for the upcoming year, such as the 2017 Burn Plan. An individual can also call the Forest Service office about specific projects or species of interest and get their questions answered. Under the Stewardship Contract for this proposal an estimated $300,000 will be available for projects besides getting the trees out of the Forest. [ID#44]

Associated Comments: [Seq#44]

Once this project gets rolling, without funds other than "the trees paying their way out of the forest," how will the public be informed of fund-allocation and the progress of the project? And how will the public know if the mule deer and their predators, the ESA listed salmonids and the riparian zone and all the other mammals, fish and birds are faring with all the changes to their environment which really is not "insignificant." [6-2]

Concern: [Seq#45]

Also, on page 276 there is an incomplete sentence and incomplete paragraph which, if complete, may contain valuable information to the public and should be published and disclosed [ID#45]

Response: [Seq#45]

Thank you for your comment. We will correct this paragraph before the final EA goes out to the public. [ID#45]

Associated Comments: [Seq#45]

Also, on page 276 there is an incomplete sentence and incomplete paragraph which, if complete, may contain valuable information to the public and should be published and disclosed. [4-27]

Concern: [Seq#46]

The concept of Wilderness Urban Interface is rather amorphous. How could WUI be defined in numbers, miles or acres? [ID#46]

Response: [Seq#46]

WUI - Wildland Urban Interdface

Please review Section 3.6, Fire/Fuels which has a more complete description of WUI.

The project area contains approximately 23,000 acres of WUI as defined by the Community Wildfire Protection Plan (CWPP) prepared by Okanogan County. This area is shown on Figure 58 on page 148 of the June 2017 Preliminary Revised EA. About 16,400 acres of the 23,000 is identified as Rural WUI; most of this lies in the Libby Creek drainage with a small portion in the Buttermilk Creek drainage around Blackpine Lake Campground. About 5,000 acres of WUI within the project area is part of the CWPP's "Twisp-Carlton Neighborhoods" and is characterized in the CWPP as having moderate to high risk of wildfires, especially on mid- to upper-slopes and in developed drainages. Within this area, the CWPP further identifies Libby Creek as a potential "hot spot" for fire activity due to economic values, fuel types, fire history, and access issues. The project area also contains approximately 1600 acres of WUI in the Buttermilk Creek vicinity which is another priority treatment area for the "Twisp River Neighborhood" and is characterized in the CWPP as having very high risk of experiencing a damaging wildfire in part because of existing fuel types, fuel loading, and topography. Recommended treatments in both areas include fuel reduction around private lands and along ingress/egress routes. [ID#46]

Associated Comments: [Seq#46]

The concept of Wilderness Urban Interface is rather amorphous. How could WUI be defined in numbers, miles or acres? [6-3]

Concern: [Seq#47]

Treatment of natural fuels would not occur in old growth stands meeting the criteria for Forest Plan Old Growth." "Fuel treatments in stands managed as future old growth would provide for retention of key old growth components." "Fuel treatments after precommercial and commercial thinning would minimize damage to residual stems." [The Forest has denied the existence of any old growth stands; although no surveys have been shared this suggests that old growth trees are within commercial thinning/logging stands and would be exposed to fuel treatments. How would "key old growth components" be protected? The original EA indicates that the first project action would be commercial thinning/logging; when and where would precommercial thinning occur? Logging in Libby Creek watershed is to occur "along the drainage bottoms" to reduce or eliminate native conifers and encourage an increase in aspens. Fifty-four percent of the logging in deer winter range will be in these bottoms; how will old growth conifers or their precursors be protected in those areas?

The Forest Service has conducted no old growth survey in the area affected by the amendment. Old growth that does exist in this area would be threatened

[ID#47]

Response: [Seq#47]

Since scoping, photo analysis and field review have clarified that no stands meeting the Okanogan Forest Plan definition of Old Growth exist in any proposed thinning or prescribed fuels treatment unit. Therefore, this concern does not apply to the project.

Precommercial thinning would occur when funding was available to do this type of work. This funding could come from the Stewardship Contract, Forest Service funding, or from outside funding. These treatments could start as soon as the NEPA document is signed until several years after all commercial harvest treatments are completed. [ID#47]

Associated Comments: [Seq#47]

The Forest Service has conducted no old growth survey in the area affected by the amendment. Old growth that does exist in this area would be threatened. [4-29]

"Treatment of natural fuels would not occur in old growth stands meeting the criteria for Forest Plan Old Growth." "Fuel treatments in stands managed as future old growth would provide for retention of key old growth components." "Fuel treatments after precommercial and commercial thinning would minimize damage to residual stems." [The Forest has denied the existence of any old growth stands; although no surveys have been shared this suggests that old growth trees are within commercial thinning/logging stands and would be exposed to fuel treatments. How would "key old growth components" be protected? The original EA indicates that the first project action would be commercial thinning/logging; when and where would precommercial thinning occur? Logging in Libby Creek watershed is to occur "along the drainage bottoms" to reduce or eliminate native conifers and encourage an increase in aspens. Fifty-four percent of the logging in deer winter range will be in these bottoms; how will old growth conifers or their precursors be protected in those areas?] [7-34]

Concern: [Seq#48]

Using the word "imperceptible" in reference to the sediment that will end up in the creek is not true or accurate. [ID#48]

Response: [Seq#48]

As stated under 219.8(a)(2)(iii) and 219.9(a)(2)(I) on page 79, and 219.9(b) on page 80 of the June 2017 Preliminary Revised EA: "Thinning as provided by this amendment would cause an adverse, short-term, negligible impact on water quality" and an adverse short-term, negligible effect on habitat for federally-listed threatened or endangered species in the project area.

Use of the Watershed Erosion Prediction Project Model (WEPP) predicts that rock armouring would result in a greater than 80% reduction in sediment production to streams. Some patches of bare soil contributing sediment would be greater from prescribed burning. If you have an negligible effect (as defined on page 48 "A change that would be so small as to be undetectable and without measurable or perceptible consequences to aquatic or hydrologic resources.") the sediment produced could be termed "imperceptible". [ID#48]

Associated Comments: [Seq#48]

Using the word "imperceptible" in reference to the sediment that will end up in the creek is not true or accurate. [6-22]

Concern: [Seq#49]

The proposed amendment claims (section 3.16, subsection 219.8(b)(3) that thinning would provide employment opportunities-- it should be noted that no substantive employment, if any, in the local area will occur as a result of the overstory logging in deer winter range, other than the salaries of the forest service employees who benefit from resource extraction-- a cost to the public not taken into account in the financial analysis of the project. Taking into account the time and related cost the Forest Service has put into preparing this project, it will be a deficit sale as far as the public is concerned, for the benefit of a tiny number of logging company owners and employees. [ID#49]

Response: [Seq#49]

Based on Section 3.14.4.3, Alternatives 2 and 3, based on June 2016 log prices; harvesting would generate $2.73 million in timber value at the mill. After logging operations there would remain approximately $310,000 that could be used to supplement or support other planned projects. Much of the difference between these two numbers is the cost of labor to complete the project which translates into potential labor employment opportunities; a number of jobs. The economic analysis does not consider salaries of Forest Service employees. This project is expected to provide, at least, an estimated 40 - 50 Full Time Equivalents (FTEs) jobs over its life. [ID#49]

Associated Comments: [Seq#49]

The proposed amendment claims (section 3.16, subsection 219.8(b)(3) that thinning would provide employment opportunities-- it should be noted that no substantive employment, if any, in the local area will occur as a result of the overstory logging in deer winter range, other than the salaries of the forest service employees who benefit from resource extraction-- a cost to the public not taken into account in the financial analysis of the project. Taking into account the time and related cost the Forest Service has put into preparing this project, it will be a deficit sale as far as the public is concerned, for the benefit of a tiny number of logging company owners and employees. [5-9]

Concern: [Seq#50]

And, relative to climate change, what sources are you employing to forecast future conditions? We are living in a time when even modern computer modeling and climate scientists have inadequately projected the timeline and threats associated with global climate change. [ID#50]

Response: [Seq#50]

Section 3.15.4, Climate Change, Greenhouse Gases and Carbon Sequestration, addresses your concern since the scope and degree of landscape change would be minor relative to the amount of forested land in the Pacific Northwest region as a whole. Sources cited include the Intergovernmental Panel on

Climate Change (IPCC) 2013, IPCC 2014, US EPA 2015, Joyce et al. 2014, Millar et al. 2007, Smith et al. 2014, and IPCC 2000. Projects like the proposed action that create forests or improve forest conditions and capacity to grow trees are positive factors in carbon sequestration. [ID#50]

Associated Comments: [Seq#50]

And, relative to climate change, what sources are you employing to forecast future conditions? We are living in a time when even modern computer modeling and climate scientists have inadequately projected the timeline and threats associated with global climate change. [3-6]

Concern: [Seq#51]

The Forest Service rationale for what existed historically and what should exist in the future is not substantiated by science outside of "in-house" Forest Service best available science. These notions of history and future conditions are misleading and are addressed by many comments to the Preliminary EA. [ID#51]

Response: [Seq#51]

The overlap of the historical and expected future range of conditions (Desired Range of Variation-DRV) for the two landscapes are described in terms of ranges of percent of the landscape and the average patch size of forest vegetation (preliminary EA pages 116-117 and 143-144). The definitions of the different forest structure categories are found in the Okanogan-Wenatchee Forest Restoration Strategy - 2012.

The restoration promoted by this EA aims to enhance the resiliency and sustainability of forests through treatments that incrementally return the ecosystem to a state that is within a historical range of conditions (Landres et al. 1999) tempered by potential climate change (Millar and Woolfenden 1999). It is the process of assisting the recovery of resilience and adaptive capacity of ecosystems that have been degraded, damaged, or destroyed (FSM 2020.5).

It is assumed that historical vegetation conditions were sustainable and resilient given the presence of historical levels and frequency of disturbance. Purpose and Need #4 calls for sustainable levels of wildlife habitat. This EA proposes treatment that would develop, maintain, and/or enhance habitat for federally listed and other wildlife species and reduce the risk of large-scale habitat loss to uncharacteristically lethal fires by increasing resilience of habitats to wildfire.

Indeed much has changed over the last 100 years. For that reason the landscape is divided and characterized by patch, using the oldest aerial photography available. It is well understood that a single 1930's photograph by itself would represent a very arbitrary reference point, however by characterizing the 1930 vegetation patterns across a landscape you are capturing the suite of vegetation composition and patterns shaped by natural processes over hundreds to thousands of years prior to the time of the photo. This is termed a 'substitution of space for time', a sampling method common in ecology. One

strength of this process is that when you capture multiple similar landscapes across a large geographic region, a range of conditions can be created. This range of conditions captures landscapes that have developed as a result of the same processes but in different times, different places, and can represent different phases of development. This space for time substitution means that we are referencing a range of conditions (both in time and space) that are in different stages of development, effectively capturing a range of possible landscape evolutions. Unlike other approaches to estimate Historical Range of Variability (HRV) using unverified assumptions, our approach to quantifying HRV is grounded with observed conditions. [ID#51]

Associated Comments: [Seq#51]

The Forest Service rationale for what existed historically and what should exist in the future is not substantiated by science outside of "in-house" Forest Service best available science. These notions of history and future conditions are misleading and are addressed by many comments to the Preliminary EA. [4-13]

Concern: [Seq#52]

Page 237, 219.9(a)(2)(ii) Key Characteristics, cites the treatment benefit of encouraging microsite distrubance-adapted species. What are these species? Is this explanation consistent with the goal of establishing historical stand structure and composition?

[[ID#52]

Response: [Seq#52]

Disturbance adapted species include, but are not limited to Ponderosa pine, willow, rose, cottonwood, lupine, fireweed, aspen, pinegrass, and snowbrush. Ponderosa pine has thick barks that protects them from fire. Cottonwood can resprout new branches if old ones are burned. Willow, aspen and roses can resprout from their roots after a fire. Lupine will fix nitrogen in the soil post-disturbance. Fireweed readily sprouts from root fragments following disturbance and is capable of very rapid growth; they may bloom within 1 month. Fireweed is a prolific seed producer, which is useful for out competing invasive plants post-disturbance. Pinegrass responds to increased light availability following disturbance and flowers. Snowbrush seeds can only open after a fire; this species also fixes nitrogen in the soil post-disturbance.

Purpose and Need #3 states that the goal of the project is to maintain and restore forest vegetation characteristics to within estimated historical **and** future ranges of variability to improve forest resiliency to insect, disease, and wildfire events. The above species would respond to the proposed treatments and would be in-line with the goals of Purpose and Need #3. [ID#52]

Associated Comments: [Seq#52]

Page 237, 219.9(a)(2)(ii) Key Characteristics, cites the treatment benefit of encouraging microsite distrubance-adapted species. What are these species? Is this explanation consistent with the goal of

establishing historical stand structure and composition? [4-24]

Concern: [Seq#53]

What is the best available science the FS is relying upon to conclude, "Areas of winter range cover that would be reduced below current S&Gs contain higher tree stocking levels with more canopy closure than existed historically"?

What is the best available science the FS is relying upon to conclude, "Forested stand composition in deer thermal cover consist of a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future"? (Emphasis added.) Is the FS considering the science of climate change in its analysis of what "is predicted to exist in the future" and if so, what is that best available science?

[ID#53]

Response: [Seq#53]

The Revised Preliminary Mission EA presents "the best science" regarding historical levels of structures capable of providing Okanogan Forest Plan cover. In section 3.5.3 of the Revised Preliminary Mission EA, it is stated that "These practices favored the development of dense and often multiple canopy layered structures (SECC, UR, and YFMS) which currently are more abundant in the project area compared to estimated historic levels in the dry forest type." This is based on analysis using EMDS with current for the Mission watersheds and historical data from similar watersheds throughout the Interior Columbia Basin. Hessburg et al. 2015 was cited for this statement and documented in Appendix E of the Revised Preliminary Mission EA. The Revised Preliminary EA provides the current percent landscape and the Desired Range of Variability (HRV) for these structure types in Figure 49, which is, the overlap of the Historical Range of Variability and the estimated Future Range of Variability. The actual Historical Range of Variability (HRV) is available in the project files. SECC, UR and YFMS are all above HRV in both subwatersheds.

Species composition of current conditions compared to the Historic and Future Conditions was part of the EMDS reports for the Mission subwatersheds. This data is available in the project files. The range of future condition is derived by changing the data set of reference condition subwatersheds with which the Mission subwatershed are compared, to warmer and drier subwatersheds (see Revised Preliminary EA pages 100-101). Douglas-fir trees are considered shade tolerant compared to ponderosa pine, which is the other major dry forest species in the project area. [ID#53]

Associated Comments: [Seq#53]

What is the best available science the FS is relying upon to conclude, "Areas of winter range cover that would be reduced below current S&Gs contain higher tree stocking levels with more canopy closure than existed historically"? [2-1]

What is the best available science the FS is relying upon to conclude, "Forested stand composition in

deer thermal cover consist of a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future"? (Emphasis added.) Is the FS considering the science of climate change in its analysis of what "is predicted to exist in the future" and if so, what is that best available science? [2-3]

Concern: [Seq#54]

What is the best available science the FS is relying upon to conclude these areas have "accompanying higher risk of uncharacteristic crown fire behavior and increased vulnerability to insect outbreaks"? [ID#54]

Response: [Seq#54]

Section 3.5.3 of the Revised Preliminary EA discusses the criteria for rating the vulnerability to western spruce budworm and cites Carlson et al. 1985 and Hessburg et al. 1999. The hazard rating and the accompanying Desired Range of Variability developed by EMDS for western spruce budworm, takes into account canopy cover, tree density, stand composition, and juxtaposition of patches of host species on the landscape. The Desired Range of Variability is found in figure 49 of the Revised Preliminary EA. Details are available in the project files.

The criteria regarding vulnerability to bark beetles is also discussed in section 3.5.3. and Hessburg, et al. 1999 was also the best science used for this analysis. However, the citation was not included. This error will be rectified in the Final EA. [ID#54]

Associated Comments: [Seq#54]

What is the best available science the FS is relying upon to conclude these areas have "accompanying higher risk of uncharacteristic crown fire behavior and increased vulnerability to insect outbreaks"? [2-2]

Concern: [Seq#55]

"Dense stands are not a sustainable condition, and are at risk of mortality from insects, disease and wildfire." Where is the evidence that these stands are now having severe insect and disease problems? Will a thinned or commercially logged stand not be at risk of wildfire? (Even stand replacing fires have many ecological benefits.) [ID#55]

Response: [Seq#55]

The EA does not claim that these stands are now having insect and disease problems. The Revised Preliminary EA states that the watershed has vulnerable stand conditions at a higher percent of the

landscape than what was historically found (see figure 49 for western spruce budworm vulnerability and Figure 56 for crown fire vulnerability).

Thinning stands does not reduce the risk of wildfire. It merely reduces the vulnerability of a stand or landscape to wildfire, so that when a fire does happen, a stand or landscape is more likely to have enough surviving trees to be forested or at least provide seed for post-fire regeneration. A purpose of this project is to maintain and restore forest vegetation characteristics to within estimated historical and future ranges of variability to improve forest resiliency to insect, disease, and wildfire events (Revised Preliminary EA page 5).

The Revised Preliminary EA does not suggest that there are no ecological benefits to wildfire. The probability of uncharacteristically intense wildfire and its effects on Wildland Urban Interface and wildlife habitat are found on pages 150-152 and 183 in the effects of No Action. [ID#55]

Associated Comments: [Seq#55]

"Dense stands are not a sustainable condition, and are at risk of mortality from insects, disease and wildfire." Where is the evidence that these stands are now having severe insect and disease problems? Will a thinned or commercially logged stand not be at risk of wildfire? (Even stand replacing fires have many ecological benefits.) [4-11]

Concern: [Seq#56]

The revised EA's predicted lack of long term affects from logging these areas of deer winter range are based on two highly speculative propositions: 1) that the single, conservative model of climate change used in the analysis allows for accurate prediction of long term vegetative changes caused by logging, and 2) that the modeling of desired stand composition from the highly limited data points of the 1930's aerial photographs used as a baseline for analysis serves as a definitive, reliable reference point of forest health. In neither case is there indisputable scientific evidence that modifying the existing forest plan with this amendment is anything other than a gamble in terms of how it impacts deer winter range and other aspects of the deer life cycle, as well as the entire ecosystem that they are a part of. [ID#56]

Response: [Seq#56]

The Desired Range of Variability is an overlap of the Historic Range of Variability and the Future Range of Variability (based on predicted future climate change). That means that all Desired levels would still work equally well if no climate change actually took place.

Given the trends that we have seen since the 1930's it would be likely that historical stand conditions would be even more open prior to the first impacts of Europeans on the west than what we were able to derive from 1930s photographs. If one were concerned about thinning being harmful, then this conservative approach, which results in a lower HRV for open stands, may be of some comfort.

[ID#56]

Associated Comments: [Seq#56]

The revised EA's predicted lack of long term affects from logging these areas of deer winter range are based on two highly speculative propositions: 1) that the single, conservative model of climate change used in the analysis allows for accurate prediction of long term vegetative changes caused by logging, and 2) that the modeling of desired stand composition from the highly limited data points of the 1930's aerial photographs used as a baseline for analysis serves as a definitive, reliable reference point of forest health. In neither case is there indisputable scientific evidence that modifying the existing forest plan with this amendment is anything other than a gamble in terms of how it impacts deer winter range and other aspects of the deer life cycle, as well as the entire ecosystem that they are a part of. [5-8]

Concern: [Seq#57]

Sediment.

On page 79, Water quality, the document fails to account for road widening and maintenance that would need to happen to make log haul feasible. Even though road maintenance would be the responsibility of the contracted logger, the project analysis must include widening and maintenance. Already, directly above Libby Creek on Rd 43, there are washouts and road narrowing that, to make it passable, let alone safe, by log hauling, would require inevitable distribution of sediment directly into the creek [ID#57]

Response: [Seq#57]

Road maintenance has design criteria and BMPs associated with it to minimize disturbance and sediment delivery to streams. See Appendix D. Road maintenance, in general, would like reduce sediment delivered to streams since ruts would be removed and drainage off the road improved. [ID#57]

Associated Comments: [Seq#57]

On page 79, Water quality, the document fails to account for road widening and maintenance that would need to happen to make log haul feasible. Even though road maintenance would be the responsibility of the contracted logger, the project analysis must include widening and maintenance. Already, directly above Libby Creek on Rd 43, there are washouts and road narrowing that, to make it passable, let alone safe, by log hauling, would require inevitable distribution of sediment directly into the creek. [4-19]

Concern: [Seq#58]

Sediment. Waterways near roads are susceptible to sediment infiltration from passing vehicles. Libby Creek has ESA listed salmonids that are impacted heavily by this type of traffic on the dirt portion of the road. With the onset of this project the volume of traffic will increase exponentially from the FS, assorted logging vehicles, widening and maintenance of roads, logging trucks driving through creeks, continued allowance of cattle allotments which everyone knows raises havoc with the aquatic habitat, erosion of riparian zone and cattle walking through the creeks while defecating and urinating and invasive species being imported via cattle and horse hooves, trailer tires and trucks pulling them.

[[ID#58]
Response: [Seq#58]

Road maintenance and logging traffic have design criteria and BMPs associated with it to minimize disturbance and sediment delivery to streams. See Appendix D. Road maintenance, in general, would like reduce sediment delivered to streams since ruts would be removed and drainage off the road improved.

The increase in traffic with its increase in sediment production will be mitigated by rock armoring stream crossings used for summer haul. Design Criteria #85 and Appendix F for locations. [ID#58]
Associated Comments: [Seq#58]
-Waterways near roads are susceptible to sediment infiltration from passing vehicles. Libby Creek has ESA listed salmonids that are impacted heavily by this type of traffic on the dirt portion of the road. With the onset of this project the volume of traffic will increase exponentially from the FS, assorted logging vehicles, widening and maintenance of roads, logging trucks driving through creeks, continued allowance of cattle allotments which everyone knows raises havoc with the aquatic habitat, erosion of riparian zone and cattle walking through the creeks while defecating and urinating and invasive species being imported via cattle and horse hooves, trailer tires and trucks pulling them. [6-18]

Concern: [Seq#59]

Sediment.

Prescribed burning may create some patches of bare soil that would have short-term susceptibility to erosion that may contribute imperceptible amounts of sediment to streams until ground cover is re-established."

[Logging and burning of thousands of acres of watershed over at least 3-5 years has been projected to create 105 acres of bare soil, How that has been determined must be explained. [ID#59]
Response: [Seq#59]

The project record has detailed calculations upon how the bare soil acres were calculated.

For example: Prescribed burning produces an estimated 3% high burn severity which would create bare soil. 100 acres * 0.03 = 3 acres of bare soil. Machine piles are estimated at 100 ft2 * 15 piles per acre. Hand piles are 16 ft2 *25 per acre. Landings and roads also have estimates of bare soil creation. [ID#59]
Associated Comments: [Seq#59]
Prescribed burning may create some patches of bare soil that would have short-term susceptibility to erosion that may contribute imperceptible amounts of sediment to streams until ground cover is re-established." [Logging and burning of thousands of acres of watershed over at least 3-5 years has been projected to create 105 acres of bare soil, How that has been determined must be explained.] " [7-17]

Concern: [Seq#60]

Temperature. Proposed commercial thinning would maintain shade levels and not affect stream temperature." "...would have minor impacts on stream temperatures especially where listed fish occur, miles downstream." "The proposed projects are expected to maintain water quality necessary to support healthy riparian, aquatic, and wetland ecosystems at the project and watershed scale."

[The first sentence above is contradicted by selective removal of the overstory and by the acknowledgment that downstream listed fish would be impacted. That is not in compliance with the NW Forest Plan. [ID#60]
Response: [Seq#60]

This project will not have a measurable effect upon temperature at the reach or HUC scale. Direct solar radiation is the largest driver for temperature alteration and the removal of a few overstory trees along fish streams will not decrease shading or increase temperature. Thinning and prescribed fire ignitions are either located outside of riparian reserves or have design criteria to minimize any impact to this indicator. See Figure 2, Hydrologic/Aquatic Resource Report for further information. [ID#60]
Associated Comments: [Seq#60]
"Proposed commercial thinning would maintain shade levels and not affect stream temperature." "...would have minor impacts on stream temperatures especially where listed fish occur, miles downstream." "The proposed projects are expected to maintain water quality necessary to support healthy riparian, aquatic, and wetland ecosystems at the project and watershed scale." [The first sentence above is contradicted by selective removal of the overstory and by the acknowledgment that downstream listed fish would be impacted. That is not in compliance with the NW Forest Plan.] [7-21]

Concern: [Seq#61]

Sediment. **]**

"...tree harvest using mechanical equipment and prescribed burning would be unlikely to contribute sediment to the streams..."

["Protection buffers" would not eliminate sediment delivery to streams. The plan does not provide for permitted cattle to be denied access to riparian areas or prescribed burn and logging areas (landings, roads, and skid trails). Soil erosion will follow those paths to the streams.] [ID#61]
Response: [Seq#61]

Permitted grazing is an allowed use on National Forest System lands and is part of multiple use. BMPs, monitoring and annual operating instructions exist separately and were not analyzed in this report but in a separate, recent NEPA decision. [ID#61]
Associated Comments: [Seq#61]
"...tree harvest using mechanical equipment and prescribed burning would be unlikely to contribute sediment to the streams..." ["Protection buffers" would not eliminate sediment delivery to streams. The plan does not provide for permitted cattle to be denied access to riparian areas or prescribed burn and logging areas (landings, roads, and skid trails). Soil erosion will follow those paths to the streams.] [7-22]

Concern: [Seq#62]

Sediment.

...management activities would change the drainage network.". "Most new temporary drainages would be disconnected to the stream network." "In the long-term ...decommissioning would result in a net decrease in the net miles of artificial streams....depending on the amount of road decommissioning selected."

[This presentation of a decrease in adverse effects indicates that any positive affects will be dependent on future decisions and funding. [ID#62]
Response: [Seq#62]

Some roads will be immediately decommissioned after harvest for an immediate net reduction in road miles. Future decommissioning will depend on funding. Chapter 3.3 EA. There is a high level of interest from partners and collaborators to fund projects, such as road decommissioning, in the future. Roads discussed for decommissioning in this project will not need additional decisions about decommissioning if done within about 5 - 8 years of this decision. [ID#62]
Associated Comments: [Seq#62]
...management activities would change the drainage network.". "Most new temporary drainages would be disconnected to the stream network." "In the long-term ...decommissioning would result in a net decrease in the net miles of artificial streams....depending on the amount of road decommissioning selected." [This presentation of a decrease in adverse effects indicates that any positive affects will be dependent on future decisions and funding.] [7-24]

Concern: [Seq#63]

Management Area 14 is large. Mitigation efforts for the proposed deer winter range treatments require leaving any unit 20% untreated, which means 80% can be "treated". This is inadequate for leaving enough cover and security from predators. [ID#63]

Response: [Seq#63]

MA 14 in the Mission project area comprises 10,979 acres. Of this area, 4,719 acres, 43% of the area, would be included in thinning units (either fuels reduction, non-commercial or commercial thinning). Post-project, winter cover will remain over approximately 33% of the area outside of the units as discussed in the Preliminary EA at p.199, and in the Specialist Report (Glidden, 2017). In addition, each ladder fuel reduction unit would leave 20% of the area untreated, in patches from 0.1 acre to multiple acres in size, to retain hiding cover for mule deer, provide adequate cover distribution across the project area, and to increase diversity, connectivity and habitat elements for other wildlife species. Literature review of cover use by mule deer does not indicate the need for a specific proportion of cover on winter range. [ID#63]

Associated Comments: [Seq#63]

Management Area 14 is large. Mitigation efforts for the proposed deer winter range treatments require leaving any unit 20% untreated, which means 80% can be "treated". This is inadequate for leaving enough cover and security from predators. [4-6]

Concern: [Seq#64]

The literature cited to justify the reduction in thermal cover is inconclusive and contradictory. From Woodland Fish and Wildlife (June 2014): "Recent studies regarding thermal cover (dense vegetation to provide warmth) for deer and elk have shown that the availability of thermal cover has little influence over survivability of elk. "(NOTE: not deer) "However, biologists do recommend providing and maintaining cover for deer and elk as it provides security and protection from predators (Wisdom and Cook 2000)." Much of literature cited in the EA are studies on elk, not deer. The deer studies are inconclusive. The studies only address thermal cover and not hiding cover, but the Forest plan specifically states that MA 14 should have 40% cover (20% hiding and 20% summer thermal). Does the proposed amendment to harvest trees in this area take into account the effect on summer cover? Where is this information? Why does the rationale for the amendment only refer to winter cover and not summer cover?

[ID#64]

Response: [Seq#64]

Ungulates are often discussed together in the literature as referenced in the Preliminary EA and the Specialist Report (Glidden, 2017).

Because thermal cover offers a hiding cover component, as well as thermal cover, it is not specifically broken out as a habitat element for the Methow Valley Ranger District, and there is no specific Forest Plan target for it on winter range.

Analysis of the non-winter range portion of the project area showed 66% of the project area was providing non-winter cover, well above the standard of 20% hiding and 20% thermal cover (Wildlife Report at p.11). Post-treatment, a conservative estimate of remaining cover would be 49% across the project area (assuming that all harvest and noncommercial treatments would remove all cover). Because the standard would be met, an amendment was not needed. [ID#64]

Associated Comments: [Seq#64]

The literature cited to justify the reduction in thermal cover is inconclusive and contradictory. From Woodland Fish and Wildlife (June 2014): "Recent studies regarding thermal cover (dense vegetation to provide warmth) for deer and elk have shown that the availability of thermal cover has little influence over survivability of elk. "(NOTE: not deer) "However, biologists do recommend providing and maintaining cover for deer and elk as it provides security and protection from predators (Wisdom and Cook 2000)." Much of literature cited in the EA are studies on elk, not deer. The deer studies are inconclusive. The studies only address thermal cover and not hiding cover, but the Forest plan specifically states that MA 14 should have 40% cover (20% hiding and 20% summer thermal). Does the proposed amendment to harvest trees in this area take into account the effect on summer cover? Where is this information? Why does the rationale for the amendment only refer to winter cover and not summer cover? [4-8]

Concern: [Seq#65]

"Cook et al. (2005) noted that there are tradeoffs between providing dense forest cover and providing forage resources, and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance." Where does the proposal account for snow accumulations in the project area? [ID#65]

Response: [Seq#65]

Forested cover is used by deer to moderate snow accumulations. Post-project cover on deer winter range would remain on approximately 1/3 of the winter range (Preliminary EA at p.200). [ID#65]

Associated Comments: [Seq#65]

"Cook et al. (2005) noted that there are tradeoffs between providing dense forest cover and providing forage resources, and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance." Where does the proposal account for snow accumulations in the project area? [4-9]

Concern: [Seq#66]

Also, it is significant that the local studies cited note that the observations were in daylight hours only, and during winters that were warmer and drier than normal which makes their application almost useless. [ID#66]

Response: [Seq#66]

Another local study (Moore, 2003), in Chelan County, found that mule deer use was positively associated to areas without cover, and had a negative association to areas of cover. No difference in day and night habitat use was observed. [ID#66]

Associated Comments: [Seq#66]

Also, it is significant that the local studies cited note that the observations were in daylight hours only, and during winters that were warmer and drier than normal which makes their application almost useless. [4-10]

Concern: [Seq#67]

As stated in the Preliminary EA on page 181, the wildfires of 2014 and 2015 have left much of deer winter range in those burned areas damaged. Though these areas may be outside the Mission Project analysis area, this huge environmental reality should be considered. Even "short-term" damage to the winter range from machines and soil disturbance, let alone removal of cover will negatively impact the deer herds. [ID#67]

Response: [Seq#67]

The effects of cover removal are disclosed in the Preliminary EA at p.199. Soil disturbance effects are disclosed in the Preliminary EA at p.91, which concludes that, overall, "*Following soil design criteria, Alternatives 2 and 3 would have long-term, beneficial, moderate impacts on soil erosion and mass wasting in the project area, and there would be long-term, beneficial, moderate impacts on soil compaction in the identified areas.*" Mitigations and design features are included in the project to reduce impacts to soils.

On winter range, the Preliminary EA at p.98 states that "*Thinning on up to 746 acres that would reduce deer winter range cover below S&Gs would have adverse, short-term, minor effects on soils and soil productivity because it would include some commercial thinning that uses machinery that would compact and/or displace soil as previously discussed. These effects would be mitigated using soil BMPs (such as operating over frozen ground, operating on slash mats, etc.) that are designed to keep soil disturbance within Forest and R6 soil management objectives. Thinning would create beneficial, long-term, moderate effects on soil productivity because it would leave a variety of organic matter on the site that would help maintain site productivity (Harvey et al. 1994), protect the soil surface from raindrop impact, dissipate energy of overland flow, bind soil particles together, and dampen soil temperature extremes and daily fluxes.* "

MA 14 in the Mission project area comprises 10,979 acres. Of this area, 4,719 acres, 43% of the area, would be included in thinning units (either fuels reduction, non-commercial or commercial thinning).

Post-project, winter cover will remain over approximately 33% of the area outside of the units as discussed in the Preliminary EA at p.199, and in the Specialist Report (Glidden, 2017). In addition, each ladder fuel reduction unit would leave 20% of the area untreated, in patches from 0.1 acre to multiple acres in size, to retain hiding cover for mule deer, provide adequate cover distribution across the project area, and to increase diversity, connectivity and habitat elements for other wildlife species. Literature review of cover use by mule deer does not indicate the need for a specific proportion of cover on winter range.

[ID#67]

Associated Comments: [Seq#67]

As stated in the Preliminary EA on page 181, the wildfires of 2014 and 2015 have left much of deer winter range in those burned areas damaged. Though these areas may be outside the Mission Project analysis area, this huge environmental reality should be considered. Even "short-term" damage to the winter range from machines and soil disturbance, let alone removal of cover will negatively impact the deer herds. [4-15]

Concern: [Seq#68]

On page 211, 219.8(a)(1)(i), while explaining how the amendment would effect "contributions of the plan area to ecological conditions within the broader landscape influenced by the plan", the document completely fails to address the adverse ecological contributions of private logging operations; these adverse effects have been noted in comments to the Preliminary EA and are discussed in the broad scientific community [ID#68]

Response: [Seq#68]

Effects to wildlife species from private land logging were not discussed, but would be similar to those discussed in the effects for the proposed action on federal land. A small portion of the private land in the drainages affected by the project has been logged. [ID#68]

Associated Comments: [Seq#68]

On page 211, 219.8(a)(1)(i), while explaining how the amendment would effect "contributions of the plan area to ecological conditions within the broader landscape influenced by the plan", the document completely fails to address the adverse ecological contributions of private logging operations; these adverse effects have been noted in comments to the Preliminary EA and are discussed in the broad scientific community. [4-23]

Concern: [Seq#69]

The references that the FS makes to historical conditions and future conditions stands on shaky ground. There was no perfect time in history when the forest was flawless as all forests are constantly changing dynamics and climate change is so speeded up, even science cannot predict the future accurately.

[ID#69]
Response: [Seq#69]

The 2012 Okanogan-Wenatchee National Forest Restoration Strategy (FRS) is based on an extensive body of peer reviewed science. In addition, the FRS document itself received substantial input both internally and externally through a peer review process. The FRS establishes an analysis that is consistent with landscape ecology, and it identifies issues for managers to consider, that may enhance resiliency if addressed.

The use of the concept of "Future Range of Variability" is limited to narrowing the target range within the Historic Range of Variability. The overlap of HRV and FRV is the target range (page 100 of the Revised Preliminary EA). [ID#69]
Associated Comments: [Seq#69]
The references that the FS makes to historical conditions and future conditions stands on shaky ground. There was no perfect time in history when the forest was flawless as all forests are constantly changing dynamics and climate change is so speeded up, even science cannot predict the future accurately. [6-16]

Concern: [Seq#70]

Thinning in Riparian Areas where there are ESA listed fish cannot be justified. The soil/sediment disturbance and the easier access to the creeks by livestock will have short and long term adverse major effects. Less shade in the thinned forest will drive livestock to shadier creek bottoms, enhancing the damage to ESA listed fish. [ID#70]
Response: [Seq#70]

Measures to adequately protect stream sediment levels are discussed under the project design criteria and project description. Consideration for potential changes to livestock access was considered. Most thinning in wetlands is to reduce conifer encroachment so hardwood species can thrive or to add large woody debris to streams.

[ID#70]
Associated Comments: [Seq#70]
Thinning in Riparian Areas where there are ESA listed fish cannot be justified. The soil/sediment disturbance and the easier access to the creeks by livestock will have short and long term adverse major effects. Less shade in the thinned forest will drive livestock to shadier creek bottoms, enhancing the damage to ESA listed fish. [4-21]

Concern: [Seq#71]

Harvesting overstory trees along streams would increase stream temperatures and should not happen. [ID#71]

Response: [Seq#71]

The primary shade zone along perennial flowing streams was adequately protected to prevent changes in stream shade and no effect to stream temperature. See project description and design criteria for no-harvest buffers along streams. Most stream temperature increases are the result of solar radiation and as long as adequate shading is present, increases in stream temperature such be very minor.

[ID#71]

Associated Comments: [Seq#71]

Removal of the overstory above the riparian zone of the creeks is not an action to take if you value life in the water. The temperature of the water will increase threatening the ESA listed salmonids. The fish do not discriminate between conifers or aspen. They simply need shade. [6-14]

Concern: [Seq#72]

Commenter is concerned about the adverse effects from the project to aquatic habitat conditions. [ID#72]

Response: [Seq#72]

Protection measures outlined in the project description and design criteria would minimize commercial harvest effects to aquatic resources to insignificant levels. See the Aquatics/Water Resources report for the details on the project's anticipated impacts to aquatic resources and Section 3.3, Water Resources, in the Environmental Assessment. [ID#72]

Associated Comments: [Seq#72]

-Due to the open forested landscape model proposed, the adverse effects are many-reduction of summer stream flow, increased water temperatures, increased sediment, further stress to already threatened ESA listed salmonids and in the attempt to manipulate the stand compositions-reduce conifers and increase aspens-the natural vegetation succession will be one more aspect of the forest to be further unbalanced. [6-20]

Concern: [Seq#73]

Commenter has concerns about logging, fuels reduction, and sediment on ESA listed fish. [ID#73]
Response: [Seq#73]

Protection measures outlined in the project description and design criteria would minimize commercial harvest, fuels, and their associated sediment effects to aquatic resources to insignificant levels. See the Aquatics/Water Resources report for the details on the project's anticipated impacts to aquatic resources, Section 3.3, Water Resources, and Appendix D, Design Criteria. [ID#73]
Associated Comments: [Seq#73]
What if in the short run the aquatic environment is impacted so greatly by logging, sediment and prescribed burns that the ESA listed salmonids do not survive to see the future "net reductions" of sediment in the long term? [6-21]

Concern: [Seq#74]

The project would protect shade along perennial streams.

The opening of the overstory and the predicted hotter and drier summers would result in decreased surface stream flows and increased water temperatures with potential to increase the threat to ESA-listed salmonids inhabiting their currently "at risk" critical habitat. [ID#74]
Response: [Seq#74]

The primary shade zone along perennial flowing streams was adequately protected to prevent changes in stream shade and no effect to stream temperature. See project description and design criteria for no-harvest buffers along streams. Most stream temperature increases are the result of solar radiation and as long as adequate shading is present, increases in stream temperature such be very minor. [ID#74]
Associated Comments: [Seq#74]
The opening of the overstory and the predicted hotter and drier summers would result in decreased surface stream flows and increased water temperatures with potential to increase the threat to ESA-listed salmonids inhabiting their currently "at risk" critical habitat. [7-6]

Concern: [Seq#75]

Consistency Statement "Aquatic habitat restoration treatments would improve degraded or at-risk habitat indicators." "Fine sediment levels in Libby Creek would be expected to have a net reduction in the long-term."

Restoration treatments are indicated to be unfunded and therefore cannot be assured to have any affect on habitat. Commercial thinning/logging is funded and has been determined to have long-term adverse effects on sediment delivery to at-risk Libby Creek salmonid critical habitat. Logging is projected to continue for 3 to 5 years contributing sediment to Libby Creek; by Forest definition that is a long-term adverse effect [ID#75]

Response: [Seq#75]

Aquatic restoration partners such as Trout Unlimited, US Fish and Wildlife Service, and the Confederated Tribe of the Colville Reservation are working with the Methow Valley Ranger District to start securing funding for aquatic restoration projects. [ID#75]

Associated Comments: [Seq#75]

Consistency Statement "Aquatic habitat restoration treatments would improve degraded or at-risk habitat indicators." "Fine sediment levels in Libby Creek would be expected to have a net reduction in the long-term." [Restoration treatments are indicated to be unfunded and therefore cannot be assured to have any affect on habitat. Commercial thinning/logging is funded and has been determined to have long-term adverse effects on sediment delivery to at-risk Libby Creek salmonid critical habitat. Logging is projected to continue for 3 to 5 years contributing sediment to Libby Creek; by Forest definition that is a long-term adverse effect.] [7-15]

Concern: [Seq#76]

"...thinning would reduce deer winter range cover below (Forest Plan S&G)" "Thinning as provided by this amendment would cause an adverse short-term negligible impact on water quality, a key

characteristic of aquatic ecosystems, because commercial haul on forest roads would contribute sediment to streams at road crossings."

[Proposed rock armoring at six crossings would not reduce that sediment to the claimed "imperceptible amounts". There is no explanation of how those predicted "imperceptible amounts" will be monitored nor how the armoring will be funded.] [ID#76]

Response: [Seq#76]

Protection measures like no-harvest buffers along streams and winter harvest or other similar low impact method would prevent adverse effects to streams. Log hauling would have design criteria to minimize impacts. See the project description and design criteria for details on the different measures to protect aquatic resources. The aquatics/hydrology report discusses the benefits of rock armoring with references. The 6 rock crossings proposed in Libby Creek drainage would be funded prior to log hauling. The proposed monitoring is described in the EA document. [ID#76]

Associated Comments: [Seq#76]

"...thinning would reduce deer winter range cover below (Forest Plan S&G)" "Thinning as provided by this amendment would cause an adverse short-term negligible impact on water quality, a key characteristic of aquatic ecosystems, because commercial haul on forest roads would contribute sediment to streams at road crossings." [Proposed rock armoring at six crossings would not reduce that sediment to the claimed "imperceptible amounts". There is no explanation of how those predicted "imperceptible amounts" will be monitored nor how the armoring will be funded.] [7-16]

Concern: [Seq#77]

the amount of sediment would be imperceptible in volume and duration and would not impede recovery of T&E species or conservation of proposed candidate species."

[This contention is contradicted by statements provided in the original EA.]

"Where harvest occurs in RRs, the objective is to restore riparian vegetation conditions."

[The logging in Libby Creek RRs is designed to open the overstory and to alter the vegetation conditions for long-term change for benefit of cattle and beaver. [ID#77]

Response: [Seq#77]

The Aquatics/Hydrology report and Section 3.3, Water Resources discusses the anticipated project effects to stream conditions, specifically fine sediment levels, and the proposed measures to maintain existing conditions. These measures to adequately protect stream sediment levels are discussed under the project design criteria and project description. Consideration for potential changes to livestock access was assessed. [ID#77]

Associated Comments: [Seq#77]

the amount of sediment would be imperceptible in volume and duration and would not impede recovery of T&E species or conservation of proposed candidate species." [This contention is contradicted by statements provided in the original EA.] "Where harvest occurs in RRs, the objective is to restore riparian vegetation conditions." [The logging in Libby Creek RRs is designed to open the overstory and to alter the vegetation conditions for long-term change for benefit of cattle and beaver.] [7-18]

Concern: [Seq#78]

Nearly all references to the theory that treatments would restore stand structure, composition, and arrangement and would make the forest less susceptible to wildfire are justified by false assumptions made in the Okanogan-Wenatchee Forest Restoration Strategy (OWFRS), substantiated primarily by it's own in-house best available science;

the OWFRS claims that by designing the forest structure, composition and species, the result will be sustainable forest health, but the OWFRS completely dismisses the need to stop fire suppression, the main cause for so much of forest problems we face.

What are the ecological effects of replacing natural fire with logging? [ID#78]

Response: [Seq#78]

The Okanogan-Wenatche Forest Restoration Strategy (2012) (OWFRS) has been peer reviewed and cites hundreds of authors outside of the Forest Service, most of whose publications are not published by the US government.

Fire suppression is a social issue, which has been exacerbated by the development of the WUI. It is outside the decision space of the decision maker to change fire suppression policy for the forest, let alone change policy for this project area.

The ecological effects of harvest treatments in the Mission project area are shown throughout Chapter 3 of the Revised Preliminary Mission Restoration Project EA.

[ID#78]

Associated Comments: [Seq#78]

Nearly all references to the theory that treatments would restore stand structure, composition, and arrangement and would make the forest less susceptible to wildfire are justified by false assumptions made in the Okanogan-Wenatchee Forest Restoration Strategy (OWFRS), substantiated primarily by it's

own in-house best available science; the OWFRS claims that by designing the forest structure, composition and species, the result will be sustainable forest health, but the OWFRS completely dismisses the need to stop fire suppression, the main cause for so much of forest problems we face. What are the ecological effects of replacing natural fire with logging? [4-7]

Concern: [Seq#79]

The comment discusses concerns about changes to cattle distribution, with higher use in riparian areas, and opening up riparian canopies that will increase water temperatures.

"Timber harvest as allowed by this amendment would contribute toward habitat diversity for terrestrial wildlife and tree species.....would remove trees in riparian zones to promote production of hardwood vegetation to increase beaver forage..." "A more sustainable environment.....with the predicted wetter winter and hotter, drier summer climate..."

[Logging does diversify, at least temporarily, habitat, but not to the advantage of Libby Creek mule deer or salmonids. Removing trees in riparian zones will only increase beaver forage in the absence of cattle that concentrate in those areas. Diversity of tree species and sustainability of stands will be dependent on environmental conditions, which the original EA documents state must be maintained by repeated "treatments". Opening the riparian overstory will increase adverse effects of hotter, drier summers on stream flow and water temperatures in "at risk" critical habitat of Libby Creek salmonids

[ID#79]

Response: [Seq#79]

Measures to adequately protect stream temperature are discussed under the project design criteria and project description and the effects in the Aquatic/Hydrology Report, EA Section 3.3, Water Resources, and Appendix D, Design Criteria. Consideration for potential changes to livestock access was considered and used in the design of the project to not increase access in riparian areas. [ID#79]

Associated Comments: [Seq#79]

"Timber harvest as allowed by this amendment would contribute toward habitat diversity for terrestrial wildlife and tree species.....would remove trees in riparian zones to promote production of hardwood vegetation to increase beaver forage..." "A more sustainable environment.....with the predicted wetter winter and hotter, drier summer climate..." [Logging does diversify, at least temporarily, habitat, but not to the advantage of Libby Creek mule deer or salmonids. Removing trees in riparian zones will only increase beaver forage in the absence of cattle that concentrate in those areas. Diversity of tree species and sustainability of stands will be dependent on environmental conditions, which the original EA documents state must be maintained by repeated "treatments". Opening the riparian overstory will increase adverse effects of hotter, drier summers on stream flow and water temperatures in "at risk" critical habitat of Libby Creek salmonids.] [7-19]

Concern: [Seq#80]

The

comment suggests the project would not meet the Aquatic Conservation Strategy because of adverse effects from logging and prescribed burning generated fine

sedimen

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The Aquatic Conservation Strategy Objectives of the Northwest Forest Plan requires that projects "ensure protection of aquatic systems to which species populations, and communities are uniquely adapted."

[Those requirements are not met by the adverse effects of increased fine sediment from planned logging and prescribed burns on Mission Restoration Project area spring chinook salmon, steelhead, and bulltrout [ID#80]

Response: [Seq#80]

Measures to adequately protect stream sediment levels are discussed under the project design criteria and project description and the anticipated affects are discussed in the Aquatics/Hydrology Report, EA section 3.3, Water Resources, and Appendix D, Design Criteria. Project consistency with the Aquatic Conservation Strategy are discussed in this report. and in the Environmental Assessment. [ID#80]

Associated Comments: [Seq#80]

The Aquatic Conservation Strategy Objectives of the Northwest Forest Plan requires that projects "ensure protection of aquatic systems to which species populations, and communities are uniquely adapted." [Those requirements are not met by the adverse effects of increased fine sediment from planned logging and prescribed burns on Mission Restoration Project area spring chinook salmon, steelhead, and bulltrout.] [7-20]

Concern: [Seq#81]

Commenter suggest the sediment effects would be adverse and long-term.

The proposed road maintenance, construction (temporary roads), decommissioning, closure, and log hauling would increase sediment yields. Due to hydrologic connectivity with roads, sediment could reach fish habitat." "Once the road construction, maintenance, and decommissioning sites stabilize and log hauling ceases the net sediment yield for the Buttermilk and Libby Creek drainages would reduce."

[Sediment would reach fish habitat and be in noncompliance with the NW Forest Plan.]

"This increase would last 1-3 years following treatment."

[This impact after logging and prescribed burning is by USFS definition a long-term adverse effect.] [ID#81]

Response: [Seq#81]

Measures to adequately protect stream sediment levels are discussed under the project design criteria in Appendix D and project description and the anticipated affects are discussed in the Aquatics/Hydrology Report, and summarized in EA Section 3.3, Water Resources. See this report and the EA for more details on how the proposed design would reduce/minimize sediment delivery to insignificant levels. [ID#81]

Associated Comments: [Seq#81]

"The proposed road maintenance, construction (temporary roads), decommissioning, closure, and log hauling would increase sediment yields. Due to hydrologic connectivity with roads, sediment could reach fish habitat." "Once the road construction, maintenance, and decommissioning sites stabilize and log hauling ceases the net sediment yield for the Buttermilk and Libby Creek drainages would reduce." [Sediment would reach fish habitat and be in noncompliance with the NW Forest Plan.] "This increase would last 1-3 years following treatment." [This impact after logging and prescribed burning is by USFS definition a long-term adverse effect.] " [7-23]

Concern: [Seq#82]

The commenter was concerned about impacts from logging, grazing, climate change, and coordination with WDFW for the beaver release activities.

Releasing beavers at six sites would increase the amount of wetland habitat in the project area. Proposed projects are expected to maintain the timing, variability, and duration of floodplain inundation and water table elevation in meadows, wetlands and floodplain development."

[This conclusion does not include consideration of the dependent variables which include collaboration with WDFW, climate change predictions, the planned continuation of permitted cattle grazing, and the impact of the planned commercial logging. All have impacted the positive role that beaver colonies can provide; Mission Pond and Black Pine wetlands are examples of dam failures and abandoned habitat. [ID#82]

Response: [Seq#82]

The Aquatic/Hydrology Report discusses these different variables. This is also summarized in the EA in Section 3.3, Water Resources. Re-establishing beaver colonies would offset some of the disturbances on the landscape like roads, grazing, and climate change. This project is in cooperation with WDFW and may be funded by WDFW. Measures to protect beaver investments from livestock pressure were considered and included in the proposed action. See the project description in the EA for more details. [ID#82]

Associated Comments: [Seq#82]

"Releasing beavers at six sites would increase the amount of wetland habitat in the project area. Proposed projects are expected to maintain the timing, variability, and duration of floodplain inundation and water table elevation in meadows, wetlands and floodplain development." [This conclusion does not include consideration of the dependent variables which include collaboration with WDFW, climate change predictions, the planned continuation of permitted cattle grazing, and the impact of the planned commercial logging. All have impacted the positive role that beaver colonies can provide; Mission Pond and Black Pine wetlands are examples of dam failures and abandoned habitat.] [7-25]

Concern: [Seq#83]

The commenter discusses concerns for treating fuels in riparian areas on aquatic habitat and asks why the EA does not address grazing?

"Fuels would be treated to reduce the risk of wildfire to acceptable levels and further protect timber stands, wildlife values, and other resources from unacceptable losses caused by wildfire."

[The bottoms referred to are targeted to favor aspen and shrubs rather than "timber stands" to be protected. Wildlife values will not be protected by removing thermal cover for mule deer, nor for fisheries with degraded aquatic habitat. Other resources seems to refer to "transitional forage" for permitted cattle grazing since this is under a Range Management heading. Why does the EA avoid addressing the part cattle industry plays in supporting this project?

[ID#83]
Response: [Seq#83]

Thinning in Riparian Reserves has a few different aquatic/riparian resource objectives to enhance, restore, and build greater resiliency to disturbances. Measures to adequately protect streams habitat from short-term impacts are discussed under the project design criteria and project description and the anticipated affects are discussed in the Aquatics/ Hydrology Report. and summarized in EA section 3.3, Water Resources. The Mission project did not address grazing practices. There is a current allotment management plan that is available to address changes when needed. Grazing practices are addressed through the annual AOI meetings based on the current Allotment Management Plan, prior to the start of the grazing season. There is a current allotment management plan that is available to address changes when needed. [ID#83]

Associated Comments: [Seq#83]

"Fuels would be treated to reduce the risk of wildfire to acceptable levels and further protect timber stands, wildlife values, and other resources from unacceptable losses caused by wildfire." [The bottoms referred to are targeted to favor aspen and shrubs rather than "timber stands" to be protected. Wildlife values will not be protected by removing thermal cover for mule deer, nor for fisheries with degraded aquatic habitat. Other resources seems to refer to "transitional forage" for permitted cattle grazing since this is under a Range Management heading. Why does the EA avoid addressing the part cattle industry plays in supporting this project?] [7-35]

Concern: [Seq#84]

The fact that this amendment represents 54% of the proposed commercial thinning units must be a huge motivating factor for the responsible official to approve the amendment since the viability of the project would be much in question without it. [ID#84]

Response: [Seq#84]

The acres of additional treatment enabled by the amendment would be 54 percent of treatment within Libby Creek. The 746 acres reported on page 132 of the Preliminary EA represents 38% of the 1,952 acres of commercial thinning planned in the Mission project area.

The commenter is correct in that the viability and effectiveness of the project would be reduced by removing 746 acres from the project. That is why an action alternative without a Forest Plan amendment was not fully developed (Preliminary EA page 20). [ID#84]

Associated Comments: [Seq#84]

Page 302, 219.8(b)(1). ???? The fact that this amendment represents 54% of the proposed commercial

thinning units must be a huge motivating factor for the responsible official to approve the amendment since the viability of the project would be much in question without it. [4-28]

Concern: [Seq#85]

The revised draft EA proposes logging approximately half of the deer winter range within the project area; in ladder fuel reduction thins, mitigation of the impact includes leaving patches as small as 4,000 square feet (.1 square mile), a size of questionable benefit. No mitigation is proposed within the commercial logging units, which is unsurprising given the priority that commercial timber harvest has been given in this proposal. [ID#85]

Response: [Seq#85]

Treatments (all commercial and non-commercial thinning) would occur on approximately 40% of the winter range, with harvest units proposed for 8% (of the 40%). Mitigations are in place for harvest units, see Appendix D of the Revised Preliminary EA. Mitigations for harvest units for wildlife are to retain complex patches, clumps, and canopy gaps in accordance with the Forest Restoration Strategy (Revised Preliminary EA at p.377). These patches would provide some hiding cover within the units. However, harvest units were modelled as providing no thermal cover, post-harvest. Total post-harvest cover would be 33% in each management area (Revised Preliminary EA at p.198). This does not consider the additional cover that would remain in the stand-alone LFR thinning, due to mitigations of 20% of the area being left untreated in patches of 0.1 to multiple acres (Revised Preliminary EA at p.378). Germaine et al. (2004) discuss the value of small patches of cover and recommend retaining >0.04-ha patches of dense bedding and hiding cover in areas where both forest restoration and mule deer are management concerns. The Revised Preliminary EA at p. 198- "However, it is important that patches of dense cover of at least 0.1 acres be retained to provide hiding cover for mule deer (Germaine et al. 2004)." [ID#85]

Associated Comments: [Seq#85]

The revised draft EA proposes logging approximately half of the deer winter range within the project area; in ladder fuel reduction thins, mitigation of the impact includes leaving patches as small as 4,000 square feet (.1 square mile), a size of questionable benefit. No mitigation is proposed within the commercial logging units, which is unsurprising given the priority that commercial timber harvest has been given in this proposal. [5-7]

Concern: [Seq#86]

Since this project was first proposed in the pre-scoping period (when units began to be marked), there have been no meaningful changes considered for any portion of the overstory logging component, including that in deer winter range.

All analysis that has been done by the Forest Service has not uncovered a single significant long term impact, despite the landscape-level scale. It appears that, rather than impartial analysis, the hundreds of pages of the revised EA are a long-winded justification for a project approved at upper levels of management before the analysis began. [ID#86]

Response: [Seq#86]

A number of meaningful changes have been considered and made in the project since scoping (see Figure 5), including: proposed units in Late-Successional Reserves (LSR) have been eliminated or modified; units have been modified to provide additional protection of riparian reserves; modifications of the transportation network have been analyzed based on public input including the addition of Alternative 3 for an increased scale of aquatic/hydrologic restoration; alternatives were modified to include more hazard reduction treatments adjacent to private lands in Libby Creek and along the Twisp River based on public input; silviculture prescriptions have been modified and units dropped based on more complete information.

An environmental assessment (EA) shall be prepared for proposals that are not categorically excluded from documentation and for which the need of an EIS has not been determined. If the agency determines based on the EA that there might be a significant effect, an Environmental Impact Statement (EIS) will be prepared.

To determine whether a proposed action significantly affects the environment, the agency must consider both the context and intensity of the proposed action, including whether the project will take place in "ecologically critical areas", whether it will affected endangered species, whether the effects of the project are highly controversial or uncertain, and whether the project is related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27).

On average, two Forest Plan amendments/year have been approved under the Okanogan Forest Plan with none of the amendments being determined "significant".

[ID#86]

Associated Comments: [Seq#86]

Since this project was first proposed in the pre-scoping period (when units began to be marked), there have been no meaningful changes considered for any portion of the overstory logging component, including that in deer winter range. All analysis that has been done by the Forest Service has not uncovered a single significant long term impact, despite the landscape-level scale. It appears that, rather than impartial analysis, the hundreds of pages of the revised EA are a long-winded justification for a project approved at upper levels of management before the analysis began. [5-11]

Concern: [Seq#87]

S&G 14-17B states that 'Access by motorized vehicles shall be prohibited on deer winter range …..Winter haul may be permitted provided the goals of the Management Area are met." [A commercial logging

operation and opening of 16 miles of road for winter hauling will not meet the goal of avoiding disturbance of mule deer on their winter range.] [ID#87]

Response: [Seq#87]

The Wildlife Report (Glidden, 2017) at p.29 discusses the guideline for operating on winter range.

"Two Forest Plan standard and guidelines discuss winter operations on deer winter range-

MA14 *Operating season for logging and post-sale operations shall be restricted where necessary to protect roads, soil, water, and wildlife resources. To protect fawning (June) and deer during winters (December through March), the operating season shall be decided on a case by case basis in fawning areas and deer winter range.*

MA14 *Access by motorized vehicles shall be prohibited on deer winter range, December through March, except for designated through routes. Winter haul may be permitted provided the goals of the Management Area are met.*

The goal of the management area is to provide wildlife habitat diversity including deer winter range while providing merchantable wood fiber. Operations on winter range are planned in several commercial units to protect soils. Winter logging standards call for frozen ground and a minimum snowpack of 8" of compacted snow, to protect soils. By the time this amount of snow has accumulated, deer have often moved to lower elevations where food is more available. Logging and hauling would occur on winter range during the winter on 557 acres, distributed across 5 drainages as follows:

Smith Canyon- 126 acres

Elderberry Creek- 175 acres

Chicamun Creek- 199 acres

Ben Creek- 14 acres

Hornet Draw- 43 acres

Three of these drainages (Smith Canyon, Elderberry and Chicamun) have private residences, so access and disturbance to deer winter range is ongoing during the winter months.

It is likely that only one drainage would have harvest activities occurring at any time, reducing effects of temporary displacement on mule deer. Disturbance to deer would be temporary and short-term, and adjacent undisturbed areas are available for animals to use. Previous experience has demonstrated that deer may not be displaced from an area by logging, but may remain in the area to forage on logging slash. In the longer term, harvest will remove shading by trees and encourage growth of shrubs used as forage, providing more food resources available to deer.

Because of the reasons stated above, I conclude that the goals of the management area would be met despite winter operations in deer winter range. The benefit to soils would result in increased long-term protectivity and would increase forest resilience and sustainability." [ID#87]

Associated Comments: [Seq#87]

S&G 14-17B states that 'Access by motorized vehicles shall be prohibited on deer winter range …..Winter

haul may be permitted provided the goals of the Management Area are met." [A commercial logging operation and opening of 16 miles of road for winter hauling will not meet the goal of avoiding disturbance of mule deer on their winter range.] [7-4]

Concern: [Seq#88]

[comment:7-12]

"Temporary amending this S&G ...would cause some adverse, mostly short-term impacts,..." "Up to 30% of this thinning in deer winter range cover would occur using commercial thinning." "A review of the best available science information (BASI) on deer thermal cover is provided in Section 3.7.5."

[The unrevised version of the EA clearly states that by USFS definition the adverse impacts would be long-term. A synonym for commercial thinning is logging which must be repeated if long-term objectives are to be sustained and adverse effects will also be long-term. Logged land reduces thermal cover for mule deer. The BASI for mule deer are not elk and whitetail deer studies.]

[comment end]

[ID#88]

Response: [Seq#88]

Effects to mule deer and thermal cover are discussed in the revised preliminary EA at p.199 and in the Wildlife Report at p. 49. The effects determination is:

"Overall, considering all project components, there would be moderate (occurring on 8% of the winter range) short- to long-term beneficial effects on winter range for mule deer. Forage would be increased in the short and longer term, and would become more palatable and nutritious, and treatments would maintain and restore stand structure, composition, and arrangement that would be less susceptible to stand-replacing wildfires that could extensively damage and reduce vegetation (including thermal cover) on the landscape. Adequate cover would remain on more than 33% of the winter range. Road decommissioning on winter range would be a minor, long-term beneficial effect." (Wildlife Report at p.51).

Elk and deer are similar ungulate species and are often considered together in the literature and in studies, including the Starkey Project, a long-term study that focused on deer and elk responses to management. [ID#88]

Associated Comments: [Seq#88]

"Temporary amending this S&G ...would cause some adverse, mostly short-term impacts,..." "Up to 30% of this thinning in deer winter range cover would occur using commercial thinning." "A review of the

best available science information (BASI) on deer thermal cover is provided in Section 3.7.5." [The unrevised version of the EA clearly states that by USFS definition the adverse impacts would be long-term. A synonym for commercial thinning is logging which must be repeated if long-term objectives are to be sustained and adverse effects will also be long-term. Logged land reduces thermal cover for mule deer. The BASI for mule deer are not elk and whitetail deer studies.] [7-12]

Concern: [Seq#89]

The justification for a reduction in deer winter cover is based on literature review that failed to find a need for 40% thermal cover and the landscape analysis for the project area that found an overabundance of dense stands." "...literature also emphasized the importance of forage." "supports the need for forage over a specific amount of cover, at least for elk." [The literature cited is not based on the study area or the negative impact a large logging operation will have on the area with the concentration of mule deer and the presence of grey wolves.. The EA should, at least, summarize the literature that supported the thermal cover standard when it was established. The project area contains sufficient forage for the mule deer near their thermal cover. The studies cited for elk and white-tail deer are not relevant for the project area. [ID#89]

Response: [Seq#89]

Literature cited is not all from the project area, or Washington State, as few studies on mule deer have been done here. The local studies have been noted in the revised preliminary EA at p.210. Effects from the commercial thinning portion of the project have been discussed in the EA at p.198. Review of literature for the original standard from the 1989 Forest Plan is not required as part of the EA. Elk and white-tail deer are similar ungulate species. [ID#89]

Associated Comments: [Seq#89]

The justification for a reduction in deer winter cover is based on literature review that failed to find a need for 40% thermal cover and the landscape analysis for the project area that found an overabundance of dense stands." "...literature also emphasized the importance of forage." "supports the need for forage over a specific amount of cover, at least for elk." [The literature cited is not based on the study area or the negative impact a large logging operation will have on the area with the concentration of mule deer and the presence of grey wolves.. The EA should, at least, summarize the literature that supported the thermal cover standard when it was established. The project area contains sufficient forage for the mule deer near their thermal cover. The studies cited for elk and white-tail deer are not relevant for the project area.] [7-37]

Concern: [Seq#90]

"...there are tradeoffs between providing dense forest cover and providing forage resources and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance."

[This applies for the project area where snow and the presence of grey wolves must be considered and where forage near the thermal cover is adequate.] [ID#90]

Response: [Seq#90]

Post-project cover is discussed in the Revised Preliminary EA at p.198-199. Cover would not be eliminated from the winter range- 33% of the winter range in MA 14 and MA 26 would provide thermal cover, post-project. That figure does not include hiding cover, which is also present and useful where predator populations exist. This may be provided by smaller trees and brush, as well as by the larger trees that provide thermal and snow-intercept thermal cover. The forest plan does not establish a standard or guideline for hiding cover on winter range in the Methow Valley. [ID#90]

Associated Comments: [Seq#90]

"...there are tradeoffs between providing dense forest cover and providing forage resources and concluded that cover is needed where security is low or where snow accumulations are factors limiting animal performance." [This applies for the project area where snow and the presence of grey wolves must be considered and where forage near the thermal cover is adequate.] [7-38]

Concern: [Seq#91]

"Local studies of mule deer winter range use in Okanogan and Chelan counties found little use of dense cover stands."...deer did not appear to prefer thermal cover. However, they noted that observations were daylight hours only and during winters that were warmer and dryer than normal. [This does not apply to the project area within the Lookout Mtn grey wolf's home range and where I and other local residents have often observed mule deer using dense thermal cover stands (with less snow accumulation) near where they forage, in deeper snow, on bitterbrush in nearby unforested areas.] [ID#91]

Response: [Seq#91]

The revised preliminary EA at p.210 notes that the Chelan County study *"found that mule deer use was positively associated to areas without cover, and had a negative association to areas of cover. No difference in day and night habitat use was observed."* There is no dispute that dense, forested stands on winter range are used by deer. However, the need for 40% of the area to provide winter thermal or snow-intercept thermal cover is not supported in the recent literature.

Effects to winter cover as a result of the project are discussed in the revised preliminary EA at p.198. "*The total cover remaining across the winter range would be approximately 33% in each management*

area. To mitigate cover post-treatment levels below Forest Plan standards, and to provide for adequate cover distribution across the project area (and to increase diversity and provide connectivity and habitat elements for other wildlife species), each ladder fuel reduction unit would leave 20% of the area untreated, in patches from 0.1 acre to multiple acres in size. "

[ID#91]

Associated Comments: [Seq#91]

"Local studies of mule deer winter range use in Okanogan and Chelan counties found little use of dense cover stands."...deer did not appear to prefer thermal cover. However, they noted that observations were daylight hours only and during winters that were warmer and dryer than normal. [This does not apply to the project area within the Lookout Mtn grey wolf's home range and where I and other local residents have often observed mule deer using dense thermal cover stands (with less snow accumulation) near where they forage, in deeper snow, on bitterbrush in nearby unforested areas.] [7-39]

Concern: [Seq#92]

Herd has plateaued ...which appears to be the landscape carrying capacity for deer." "Creating more forage contributes to a greater proportion of mule deer surviving winter conditions,..." [There is no evidence that forage is a limiting factor for project area wintering mule deer, nor that increased forage with decreased thermal cover would be advantageous. However, as vegetative succession has proceeded since the last commercial logging operation in the project area revised AMPs for cattle using reduced transitional forage have resulted in reductions in permitted cattle and their overuse of riparian zones. This has led to the Forest range management staff recommending cyclic timber harvests opening the overstory to increase "transitional forage" to justify continuing cattle grazing.] [ID#92]

Response: [Seq#92]

"There is no evidence that forage is a limiting factor for project area wintering mule deer, nor that increased forage with decreased thermal cover would be advantageous." The literature cited suggests otherwise. The project would not eliminate winter cover, but would reduce the proportion of dense stands across the landscape to more historical levels.

The Mission EA purpose and need statements do not identify the need to increase "transitional forage" for the purpose of continuing cattle grazing. The effects of the proposed thinning is that there would be a more open forest canopy which would increase transitory forage. The beneficial effects of an increase in transitory forage on cattle grazing are discussed in the EA Range section (3.10). This analysis describes the proposed thinning treatments as being secondary benefits to range management, not as proposed actions for range management. [ID#92]

Associated Comments: [Seq#92]

Herd has plateaued ...which appears to be the landscape carrying capacity for deer." "Creating more forage contributes to a greater proportion of mule deer surviving winter conditions,..." [There is no evidence that forage is a limiting factor for project area wintering mule deer, nor that increased forage

with decreased thermal cover would be advantageous. However, as vegetative succession has proceeded since the last commercial logging operation in the project area revised AMPs for cattle using reduced transitional forage have resulted in reductions in permitted cattle and their overuse of riparian zones. This has led to the Forest range management staff recommending cyclic timber harvests opening the overstory to increase "transitional forage" to justify continuing cattle grazing.] [7-40]

Concern: [Seq#93]

It is stated that the amendment would allow thinning in "deer winter range cover"; it should more correctly refer to mule deer thermal cover to differentiate the area covered from feeding area and from some of the cited literature that dealt with other species (elk and white-tail deer). [ID#93]
Response: [Seq#93]

Thank you for your comment. [ID#93]
Associated Comments: [Seq#93]
It is stated that the amendment would allow thinning in "deer winter range cover"; it should more correctly refer to mule deer thermal cover to differentiate the area covered from feeding area and from some of the cited literature that dealt with other species (elk and white-tail deer).] [7-45]

Concern: [Seq#94]

"Thinning would...result in an increase in forage available to mule deer and other animals,..." [There is no evidence that forage is a limiting factor for the mule deer that would be affected by the proposed amendment of the Forest Plan. It has however been a concern of the Washington Cattlemen's Association, which is a member of the collaborative that designed this project. The "other animals" referred to here should have been named as cattle. The transitional forage produced by the thinning will avoid the termination of the Libby Creek Allotment where permittees have abandoned and have considered abandoning permits.] [ID#94]
Response: [Seq#94]

While forage was not identified as a limiting factor for mule deer in the project area, the historical condition of the watershed would have been a lesser amount of dense stands and a higher proportion of more open stands that would have provided more forage. The higher proportion of dense stands contributes to wildfire spread and more severe effects, and a purpose of the project is to maintain and restore forest vegetation characteristics to within estimated historical and future ranges of variability to improve forest resiliency to insect, disease and wildfire events (Revised Preliminary EA at p.5).

The need to increase transitional forage for cattle in order to avoid the termination of the Libby Creek Allotment was not identified as a purpose and need of the Mission Project. The beneficial effects of an increase in transitory forage on cattle grazing are discussed in the EA Range section (3.10). This analysis describes the proposed thinning treatments as being secondary benefits to range management, not as proposed actions for range management. [ID#94]

Associated Comments: [Seq#94]

"Thinning would...result in an increase in forage available to mule deer and other animals,..." [There is no evidence that forage is a limiting factor for the mule deer that would be affected by the proposed amendment of the Forest Plan. It has however been a concern of the Washington Cattlemen's Association, which is a member of the collaborative that designed this project. The "other animals" referred to here should have been named as cattle. The transitional forage produced by the thinning will avoid the termination of the Libby Creek Allotment where permittees have abandoned and have considered abandoning permits.] [7-46]

Concern: [Seq#95]

There seems to be no reference in the EA, regarding the proposed amendment to harvest and thin on deer winter range, to follow-up seeding or purposeful re-establishment of appropriate forage. What is the best available science regarding introduction of noxious weeds from logging operations and how it can it be mitigated by pro-active seeding and planting of forage for deer, not cows? The Forest Plan does state that browse should be 85% for wildlife and 15% for livestock. Will the Forest Service monitor the re-growth of browse after disturbance? Is the impacted area of the proposed amendment within range allotments; cows will more easily access the new forage and by so doing, change the forage composition? [ID#95]

Response: [Seq#95]

Forage planting is not a part of the proposed action.

Mission project Design Criteria (Appendix D) requires the cleaning of all off-road heavy equipment (includes all logging equipment) prior to entering National Forest System land. This has been identified in the 2005 Pacific Northwest Regional Invasive Plant Program EIS Record of Decision as effective in preventing the **introduction of noxious weeds.** Forage planting is not a part of the proposed action. There are no plans to monitor shrub regrowth. **The impacted area of the proposed amendment is within a range allotment.** Under current stocking rates, any "new forage" created by the proposed thinning treatments creating a more open forest canopy would distribute livestock use patterns more evenly reducing overall utilization levels across the grazing allotment. Additionally, with improved livestock distribution, it is expected that grazing would have a negligible effect on the rate and pattern of the understory vegetation response to a more open canopy and the basic productivity of the land would be protected for wildlife and other resources (Draft EA Range section 3.10, page 242). [ID#95]

Associated Comments: [Seq#95]

There seems to be no reference in the EA, regarding the proposed amendment to harvest and thin on

deer winter range, to follow-up seeding or purposeful re-establishment of appropriate forage. What is the best available science regarding introduction of noxious weeds from logging operations and how it can it be mitigated by pro-active seeding and planting of forage for deer, not cows? The Forest Plan does state that browse should be 85% for wildlife and 15% for livestock. Will the Forest Service monitor the re-growth of browse after disturbance? Is the impacted area of the proposed amendment within range allotments; cows will more easily access the new forage and by so doing, change the forage composition? [4-16]

Concern: [Seq#96]

What is the FS plan to protect old-growth trees within the 50,000 acres? Is there a catalog of these trees? And how will the FS assure the public that no old-growth trees will be cut? [ID#96]

Response: [Seq#96]

Large diameter trees (25 inches DBH or larger) are not included in any proposed harvest treatments. Most healthy trees over 21 inches DBH would remain. All leave trees would be identified with tracer orange paint at breast height and at the butt. See page 317 of the Revised Preliminary EA.

Aerial photo interpretation with field verification (outside of Wilderness and Roadless areas) was used to identify late successional patches (patches of at least 10 acres in size with an overstory of at least 40% crown cover and average DBH of 25 inches or larger) for the entire project area. This is not equivalent to Forest Plan Old Growth. All harvest units were screened for Okanogan Forest Plan Old Growth (15, 18 inch trees or larger per acre for a minimum of 30 acres). No Old Growth was found within planned harvest units. An Old Growth inventory is only needed in order to determine if Replacement Old Growth (stands capable of becoming Old Growth within a reasonable time) are needed to attain the target of 5% Old Growth on the landscape. As was presented in the Preliminary EA and Revised Preliminary EA, the effects of the treatment on medium (16-25 inch DBH) and large (25 inch or larger) trees, which are candidates for Replacement Old Growth, were beneficial such that 36% of the Libby Creek subwatershed and 18% of the Buttermilk Creek subwatershed would be treated as Replacement Old Growth. Thus no project area Old Growth mapping is needed.

[ID#96]

Associated Comments: [Seq#96]

What is the FS plan to protect old-growth trees within the 50,000 acres? Is there a catalog of these trees? And how will the FS assure the public that no old-growth trees will be cut? [6-25]

Concern: [Seq#97]

How will the FS track the progress of this project and scrupulously upholding standards and guidelines of the Okanogan National Forest Land Resource Management Plan Standard & Guidelines? [ID#97]
Response: [Seq#97]

Monitoring project implementation is the last process of NEPA. Monitoring insures that the resulting activity meets Forest Plan Standards and Guidelines and meets project specific objectives; and that mitigation measures are effective. Planned monitoring is found in Appendix D of the Mission EA. Monitoring starts will sale implementation and sale administration and continues from there. [ID#97]
Associated Comments: [Seq#97]
How will the FS track the progress of this project and scrupulously upholding standards and guidelines of the Okanogan National Forest Land Resource Management Plan Standard & Guidelines? [6-26]

Concern: [Seq#98]

"Areas of winter range cover that would be reduced below current S&Gs contain higher tree stocking levels with more canopy closure levels than existed historically....a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future." "....conifers are out-competing desired aspen, resulting in the decline of this native species." [**There is no evidence of historical tree stocking levels**, nor which historical period has been chosen as the optimum period. An earlier document had specified pre-European, which would be impossible to document. The quantification of a future prediction would also be baseless. The effort to manage using environmental manipulations to arrive at a predetermined optimum species composition and tree stocking level is a "fools errand" and would ignore historical, current, and future environmental controlling factors.

This management objective ignores the fact that the currently present conifers and aspen are both native species and are growing within the limits of controlling environmental conditions.

The Landscapes would be managed to maintain or promote historic composition of tree species." [The EA should define and include how the "historic composition" was determined. In addition, the "historic" controlling environmental conditions should be shown to be similar to or different from those now existing or predicted to occur with expected climate changes.] [ID#98]
Response: [Seq#98]

The Okanagan-Wenatchee Landscape Restoration Strategy (2012) summarizes scientific findings regarding pre-European settlement tree stocking levels, forest structure and tree species composition (pages 30-31). The Ecosystem Management Decision Support (EMDS) framework, that was used by the Mission Restoration interdisciplinary team, utilizes data collected and derived by the Interior Columbia Basin Management Project. Forest structure data was collected on many subwatersheds throughout the Interior Columbia River Basin that are similar to the Libby Creek and Buttermilk Creek subwatersheds. No specific stocking or species composition targets were identified in the EMDS process. Instead, a range of conditions was identified for each category of subwatershed that could be used for

comparisons. The description of how the historic and future range of variation was determined will be provided in the Mission Restoration EA.

Based on departure analysis, most of the structure types capable of providing deer thermal and snow intercept cover (Stem Exclusion Closed Canopy [SECC], Understory Re-initiation [UR] and Young Forest Multistory [YFMS] are all over-represented on the dry forest types of both subwatersheds (Revised Preliminary EA page 112). The only structure type capable of providing thermal or snow intercept cover not over-represented on the landscapes is Old Forest Multi-story (OFMS).

There is no disagreement regarding what species are native to the project area. It is not known what the commenter meant regarding "controlling environmental conditions" or what the referred "limits" are. The current, departed condition is a result of past and present management practices, including wildfire suppression, timber harvest and grazing Wildfire is a key process that influences stand structure and species composition, without which is a resulting overstocking and overabundance of shade tolerant species. See Revised preliminary EA page 105. [ID#98]

Associated Comments: [Seq#98]

"Areas of winter range cover that would be reduced below current S&Gs contain higher tree stocking levels with more canopy closure levels than existed historically....a higher proportion of shade-tolerant conifers than existed historically or is predicted to exist in the future." "....conifers are out-competing desired aspen, resulting in the decline of this native species." [There is no evidence of historical tree stocking levels, nor which historical period has been chosen as the optimum period. An earlier document had specified pre-European, which would be impossible to document. The quantification of a future prediction would also be baseless. The effort to manage using environmental manipulations to arrive at a predetermined optimum species composition and tree stocking level is a "fools errand" and would ignore historical, current, and future environmental controlling factors. This management objective ignores the fact that the currently present conifers and aspen are both native species and are growing within the limits of controlling environmental conditions.] [7-10]

The Landscapes would be managed to maintain or promote historic composition of tree species." [The EA should define and include how the "historic composition" was determined. In addition, the "historic" controlling environmental conditions should be shown to be similar to or different from those now existing or predicted to occur with expected climate changes.] [7-30]

Concern: [Seq#99]

"No harvest would take place in mixed conifer and old growth stands." [A definition of "old growth" (height and/or DBH) should be provided with a map showing the areas surveyed.] [ID#99]

Response: [Seq#99]

The quote above is in error. The consistency statement on page 131 of the Revised Preliminary EA says "No harvest would take place in mixed conifer old growth stands." A definition of mixed conifer old growth will be provided in the Mission Restoration EA. [ID#99]

Associated Comments: [Seq#99]
"No harvest would take place in mixed conifer and old growth stands." [A definition of "old growth" (height and/or DBH) should be provided with a map showing the areas surveyed.] [7-28]

Concern: [Seq#100]

"Commercial thinning would thin from below (generally leave the largest trees)." [The design is to open the overstory; what percentage of the largest trees at each site planned for logging should be included in the EA.] [ID#100]
Response: [Seq#100]

The comment is unclear. The percentage of "large" trees included for harvest in each unit is 0 percent, because no trees over 24 inches DBH would be harvested (Revised Preliminary EA page 317). There is no known percentage of "larger" trees that would be included for harvest. The harvest of trees from 21-24 inches DBH would depend on the level of dwarf mistletoe infection. The stand data collected is not statistically strong enough to provide the percentage of that size class infected with dwarf mistletoe. [ID#100]
Associated Comments: [Seq#100]
"Commercial thinning would thin from below (generally leave the largest trees)." [The design is to open the overstory; what percentage of the largest trees at each site planned for logging should be included in the EA.] [7-29]

Concern: [Seq#101]

"...proposed timber harvest is designed to perpetuate the Desired Range of Variability for vegetation." "...while protecting the land for other resources..." [A description of " the Desired Range of Variability" and how it was determined to fit existing or projected environmental conditions should be included in the EA. In addition, the other resources being protected should be specified. Although the interests of commercial logging and beef producers seem clearly represented other interests in recreation and concern for ESA-listed species are not obvious.] [ID#101]
Response: [Seq#101]

The definition of the Desired Range of Variability is found on page 101 of the Revised Preliminary EA. That definition folds in two other terms; Historic Range of Variability HRV) and Future Range of Variability (FRV). While both HRV and and FRV are described and discussed in the Revised Preliminary EA, this topic will be expanded in the Mission EA.

The quotation within the comment is regarding the Consistency Statement on page 131 of the Revised Preliminary EA, which paraphrases the Okanogan Land Resource Management Plan Goal Statement for MA 25. The direction for MA 25 is to "Intensively manage the timber and range resources using both even-aged and uneven-aged Silvicultural practices. Manage to achieve a high present net value and a high level of timber and range outputs while protecting the basic productivity of the land and providing for the production of wildlife, recreation opportunities, and other resources." The Okanogan Forest Plan does not go into detail as to what those "other resources" are. The Revised Preliminary EA describes the effects on wildlife, recreation opportunities and "other resources" throughout Chapter 3 of the Environmental Assessment. [ID#101]

Associated Comments: [Seq#101]

"...proposed timber harvest is designed to perpetuate the Desired Range of Variability for vegetation." "...while protecting the land for other resources..." [A description of " the Desired Range of Variability" and how it was determined to fit existing or projected environmental conditions should be included in the EA. In addition, the other resources being protected should be specified. Although the interests of commercial logging and beef producers seem clearly represented other interests in recreation and concern for ESA-listed species are not obvious.] [7-31]

Concern: [Seq#102]

BMP monitoring.

Soils, pg 98, BMP's are worthless if there is no funding for monitoring or supervision. When the private loggers are let loose they are not going to follow BMP's [ID#102]

Response: [Seq#102]

We have funding for BMP monitoring and we actively monitor timber sales before, during, and after implementation for BMP effectiveness. If BMPs are found to be ineffective we note that and look for alternative ways forward, particularly on future Restoration Projects. Monitoring on a previous timber sale this summer, effected how this project is being planned for implementation.. [ID#102]

Associated Comments: [Seq#102]

Soils, pg 98, BMP's are worthless if there is no funding for monitoring or supervision. When the private loggers are let loose they are not going to follow BMP's. [4-22]

Concern: [Seq#103]

location of impacted soil.]

" ...sustaining soil quality and hydrological function ..." "...by reducing the amount of soil displacement, compaction, and pudding." "...to maintain or improve soil and water quality. The proposed actions and design criteria are in compliance with all Region 6 policies including improvements to soil compaction, pudding, displacement, and burned soils."

[The location and extent of these problems should be identified in the EA, along with the need, plans, and location of the proposed actions to improve them. [ID#103]
Response: [Seq#103]

Please see the full soil report, in project files, for the location of legacy soil impacts map and locations. [ID#103]
Associated Comments: [Seq#103]
" ...sustaining soil quality and hydrological function ..." "...by reducing the amount of soil displacement, compaction, and pudding." "...to maintain or improve soil and water quality. The proposed actions and design criteria are in compliance with all Region 6 policies including improvements to soil compaction, pudding, displacement, and burned soils." [The location and extent of these problems should be identified in the EA, along with the need, plans, and location of the proposed actions to improve them.] [7-26]

Concern: [Seq#104]

organic matter and soil productivity.

"...vegetation management through thinning would reduce deer winter range cover below...Plan Standards and Guidelines." "Thinning would create beneficial long-term, moderate effects on soil productivity because it would leave a variety of organic matter on the site that would help maintain site productivity (Harvey et al.1994), protect the soil surface from rain impact, dissipate energy of overland flow, bind soil particles together, and dampen soil temperature extremes and daily fluxes." "Large coarse wood persists for longer duration and provides greater benefits to soil development than smaller coarse wood."

[Evidence should be provided that opening the overstory and other commercial logging actions will provide benefits that would exceed those of the no action alternative. This presentation suggests that subsequent growth of coarse wood would be more beneficial to soil than leaving the existing larger overstory trees in place. [ID#104]
Response: [Seq#104]

When the organic matter is in the standing vegetation it does add to the soil albeit very slowly over time, but project BMPs will put residual biomass on the forest floor providing the soil biology with organic carbon additions. Please see the lit cited pages of the soil report for studies of this nature. [ID#104]

Associated Comments: [Seq#104]
"...vegetation management through thinning would reduce deer winter range cover below...Plan Standards and Guidelines." "Thinning would create beneficial long-term, moderate effects on soil productivity because it would leave a variety of organic matter on the site that would help maintain site productivity (Harvey et al.1994), protect the soil surface from rain impact, dissipate energy of overland flow, bind soil particles together, and dampen soil temperature extremes and daily fluxes." "Large coarse wood persists for longer duration and provides greater benefits to soil development than smaller coarse wood." [Evidence should be provided that opening the overstory and other commercial logging actions will provide benefits that would exceed those of the no action alternative. This presentation suggests that subsequent growth of coarse wood would be more beneficial to soil than leaving the existing larger overstory trees in place.] [7-27]

Concern: [Seq#105]

"Both action alternatives...through the next rotation..." "Most of this treatment is within Libby Creek sub-watershed and represents up to 54 percent of the overstory treatment in that sub-watershed." [This supports the information in the original EA that indicates that to maintain "the Desired Range of Variability" the adverse impacts will be repeated with each "rotation" and will therefore produce very long-term adverse effects on Libby Creek aquatic habitat.] [ID#105]
Response: [Seq#105]

The word "rotation" is forestry jargon to describe a period of time that starts from bare earth, through the regeneration and eventually harvest and return to bare earth. The phrase "through the next rotation" confirms the compliance to the Northwest Forest Plan objective of leaving 15 percent stands identified for regeneration as retention patches for multiple rotations (Northwest Forest Plan Standards and Guidelines, ROD C-41). See Appendix A of revised Preliminary EA, page 322-323. So as not to imply a decision that went beyond the proposed action, the term "through the next rotation" was used instead of "multiple rotations" as is used in the Northwest Forest Plan direction for green tree replacement in Matrix allocations (Northwest Forest Plan ROD page C-41).

Since there is no intent or implication that this decision would be carried into the future, the comment stating [the adverse impacts will be repeated with each "rotation"] is erroneous such that implementing the proposed action would not "produce very long-term adverse impacts on Libby Creek aquatic habitat". [ID#105]
Associated Comments: [Seq#105]
"Both action alternatives...through the next rotation..." "Most of this treatment is within Libby Creek sub-watershed and represents up to 54 percent of the overstory treatment in that sub-watershed." [This supports the information in the original EA that indicates that to maintain "the Desired Range of Variability" the adverse impacts will be repeated with each "rotation" and will therefore produce very long-term adverse effects on Libby Creek aquatic habitat.] [7-32]

Concern: [Seq#106]

"Thinning...as provide by this amendment would have a beneficial , short- to long-term, minor to moderate effect on system drivers...because thinning in deer winter thermal cover would create forest vegetation structure, overstory and understory species composition, and special patterns that are more similar to historical and predicted future conditions.... The resulting vegetation structure would be less vulnerable to effects of climate change such as increased summer warming and drying because there would be less vegetation on the landscape competing for increasingly scarce water resources."

[There is no evidence for these speculative conclusions.

There is evidence for the conclusion that a rotation of project actions by opening the overstory with a commercial logging operation and increasing "transitional forage" for continuing cattle grazing will please those who will profit economically.

In addition, this EA documents the long-term adverse impact of project actions on winter range thermal cover for mule deer and the critical aquatic habitat of endangered and threatened populations of fishes. [ID#106]

Response: [Seq#106]

Providing forest vegetation and structure within overlap of the historic and future range of conditions is the key concept and strategy for providing resilience with the Okanogan-Wenatchee Restoration Strategy (Pages 31-32, 113, 114). The Okanogan-Wenatchee Restoration Strategy, in it's new science review, found that

"...logical management responses to climate change - such as reducing stand densities and fuels, treating landscapes, and restoring drought-tolerant and fire resistant species and tree size classes - are consistent with management responses to other important issues, including forest health, wildfires, old and large tree structures, and protection of wildlife habitat (Franklin et al. 2008)."

The effects on forage production are shown on pages 245-252 of the Revised Preliminary EA.

The project biologist did not make the finding of "long-term adverse impact of project actions on winter range thermal cover for mule deer". She did make the following conclusion regarding the Mission Restoration project proposed vegetation management as a whole

"Overall, considering all project components, there would be moderate (occurring on 8% of the winter range) short- to long-term mixed effects on winter range for mule deer. Forage would be increased in the short and longer term, but cover would be reduced, although adequate cover would still remain. Road decommissioning on winter range would be a minor, long-term beneficial effect."

The project fish biologist did not have a finding of "long term adverse impact" on any fish populations. Instead, he did say that the project is consistent with Forest-wide Standards and Guidelines; Northwest Forest Plan Standard and Guidelines; and Northwest Forest Plan Aquatic Strategy Objectives (pages

78-84 Revised Preliminary EA). Most uses of the word "long-term" in the Aquatics section refer to beneficial effects of alternatives Two and Three. The only adverse use of "long-term" that is in the aquatics section for alternatives Two and Three is in regards to "negligible, adverse, long-term impact to ...stream sediment levels".

[ID#106]

Associated Comments: [Seq#106]

"Thinning...as provide by this amendment would have a beneficial , short- to long-term, minor to moderate effect on system drivers...because thinning in deer winter thermal cover would create forest vegetation structure, overstory and understory species composition, and special patterns that are more similar to historical and predicted future conditions.... The resulting vegetation structure would be less vulnerable to effects of climate change such as increased summer warming and drying because there would be less vegetation on the landscape competing for increasingly scarce water resources." [There is no evidence for these speculative conclusions. There is evidence for the conclusion that a rotation of project actions by opening the overstory with a commercial logging operation and increasing "transitional forage" for continuing cattle grazing will please those who will profit economically. In addition, this EA documents the long-term adverse impact of project actions on winter range thermal cover for mule deer and the critical aquatic habitat of endangered and threatened populations of fishes.] [7-33]

Concern: [Seq#107]

"These conditions would be less vulnerable to effects of climate change such as increased warming and drying during the summer months (Revised Preliminary EA at p. 132, 168)." [The planned project actions are designed to remove timber species in moist habitat and "restore dry forests" which would by Forest action **reduce summer stream flows and increase water temperatures.**

A better response to predicted climate change would be to eliminate project actions prompted by those who wish to gain economic benefits, to allow natural vegetation succession to proceed,

and for the Forest Service to manage the resources within the allocation of funding now provided.] [ID#107]

Response: [Seq#107]

An objective of this project is to increase summer and fall flows by creating beaver dam analogs (Revised Preliminary EA page 83). Reducing areas with high and moderate Crown fire Risk reduces the potential for uncharacteristic fire behavior in riparian areas, which can result in reduced shade along streams (revised Preliminary EA, page 150).

The effects of No Action are shown throughout the Revised Preliminary EA. The summary of effects for all of the alternatives are shown on pages 30-38 in the Revised Preliminary EA. There would be no movement towards attaining historic levels of forest structure and species composition, leaving the

landscape, and its many habitats, vulnerable to uncharacteristic intensity of wildfire, insects and disease. There would be no reduction in open roads and no decommissioning of roads. There would be no forage increases and no timber volume to support the local economy.

The allocation or use of allocated funding for projects is not what will be decided in regards to this EA. The question of funding is addressed to show the likelihood of proposed activities being implemented. No natural resource activity may take place, regardless of available funding, without being analyzed in a NEPA document (EA and being included in the Decision Notice. [ID#107]

Associated Comments: [Seq#107]

"These conditions would be less vulnerable to effects of climate change such as increased warming and drying during the summer months (Revised Preliminary EA at p. 132, 168)." [The planned project actions are designed to remove timber species in moist habitat and "restore dry forests" which would by Forest action reduce summer stream flows and increase water temperatures. A better response to predicted climate change would be to eliminate project actions prompted by those who wish to gain economic benefits, to allow natural vegetation succession to proceed, and for the Forest Service to manage the resources within the allocation of funding now provided.] [7-48]

Concern: [Seq#108]

It would appear that the FS wishes to create artificial conditions in the forest to attempt to control fire. What makes the FS believe that these conditions would be better than natural conditions that have evolved over millennia? That's really a lot of hubris and chutzpah on your part. What plan does the FS have to allow natural ignitions of fire, a defined distance from human habitation, to restore the forest's health naturally?

[[ID#108]

Response: [Seq#108]

Desired conditions for the Mission Project are based on a reoccurring fire regime. Fire exclusion policies in the 20th century as well as land management practices have created unnaturally high fuel accumulations of dead and live fuels in many Western forests that once experienced low-moderate severity fire regimes (Allen et al. 2002, Brown et al. 2004). Fuel conditions have changed creating undesired fire behavior when fires do occur. This is evident over the last hand full of years with the fire behavior that has resulted on the OWF MVRD with fires like the Carton Complex and Twisp River Fire.. etc.

Currently the OWF plan for managing natural ignitions is out of the scope of this project. Under the current Northwest Forest Plan the only areas where managing natural ignitions for resource benefit is in designated wilderness areas. [ID#108]

Associated Comments: [Seq#108]

-It would appear that the FS wishes to create artificial conditions in the forest to attempt to control fire. What makes the FS believe that these conditions would be better than natural conditions that have evolved over millennia? That's really a lot of hubris and chutzpah on your part. What plan does the FS have to allow natural ignitions of fire, a defined distance from human habitation, to restore the forest's health naturally? [6-19]

Concern: [Seq#109]

Since the FS plans on reducing stand density on 746 acres necessitating the proposed amendment, what is the best available science the FS is relying upon to consider the balance between increasing the rate of fire spread in the wildland urban interface (WUI) caused by the thinning, vs. the claimed benefits of reducing crown fire? [ID#109]

Response: [Seq#109]

Thinning increases crowning index which reduces crown fire hazard. Models that link surface and crown fire behavior are now being applied widely (Scott and Reinhardt 2001a). Using variants of earlier models (e.g., Van Wagner 1977, Rothermel 1991), assessments of crown fire risk can be produced that are based either on stand characteristics (canopy bulk density, canopy base height) or weather conditions needed to initiate or sustain crown fire behavior (torching index and crowning index, both defined in windspeed units). With the reduction in crown fire activity, fire rate of spread may be increased but due to reduced intensity fire may be attacked directly by persons using hand tools. Handline should be able to hold the fire with flame lengths <4' and < 100 btus/ft/sec (Andrews and Rothermel, 1982). [ID#109]

Associated Comments: [Seq#109]

Since the FS plans on reducing stand density on 746 acres necessitating the proposed amendment, what is the best available science the FS is relying upon to consider the balance between increasing the rate of fire spread in the wildland urban interface (WUI) caused by the thinning, vs. the claimed benefits of reducing crown fire? [2-4]

Concern: [Seq#110]

By reducing stand density on 746 acres, not only will the mule deer be at a disadvantage to survive but humans will be threatened as well because a forest thinned is a hotter, drier forest and therefore more vulnerable to fire ignition. [ID#110]

Response: [Seq#110]

Thinning of the 746 acres will help to increase the availability of deer forage as well as habitat. Deer are considered to be "edge" species, thriving at the interface of openings and cover patches, which will be created by the Mission project thinning design. Thinning the forest will reduce tree competition for water and other nutrients, increasing resistance and resilience to environmental disturbance. This will improve natural hydrologic processes: water infiltration, watershed yield and stabilize soil surfaces. Even if the area is more susceptible to ignitions, fire suppression actions will be more effective in treated areas. [ID#110]

Associated Comments: [Seq#110]

By reducing stand density on 746 acres, not only will the mule deer be at a disadvantage to survive but humans will be threatened as well because a forest thinned is a hotter, drier forest and therefore more vulnerable to fire ignition. [6-11]

Concern: [Seq#111]

What is the best available science the

FS is relying upon to consider the balance between reduced moisture holding capacity due to

drying from increased solar radiation onto the forest floor in the WUI caused by the thinning, vs.

the claimed benefits of reducing crown fire

[

[ID#111]

Response: [Seq#111]

Thinning will reduce tree competition for water and other nutrients, increasing resistance and resilience to environmental disturbance. This will improve natural hydrologic processes: water infiltration, watershed yield and stabilize soil surfaces. Even if the area were more susceptible to ignitions, fire suppression actions will be more effective in treated areas. Fast-moving fires in fine fuels, may be intense in terms of energy release per unit area, but do not transfer the same amounts of heat to the forest floor, mineral soil or soil organisms as do slow-moving fires in moderate to heavy fuels (Neary et al. 1999).

Thinning increases crowning index which reduces crown fire hazard. Models that link surface and crown fire behavior are now being applied widely (Scott and Reinhardt 2001a). Using variants of earlier models (e.g., Van Wagner 1977, Rothermel 1991), assessments of crown fire risk can be produced that are based either on stand characteristics (canopy bulk density, canopy base height) or weather conditions

needed to initiate or sustain crown fire behavior (torching index and crowning index, both defined in windspeed units). With the reduction in crown fire activity, fire rate of spread may be increased but due to reduced intensity fire may be attacked directly by persons using hand tools. Handline should be able to hold the fire with flame lengths <4' and < 100 btus/ft/sec (Andrews and Rothermel, 1982). [ID#111]
Associated Comments: [Seq#111]
What is the best available science the FS is relying upon to consider the balance between reduced moisture holding capacity due to drying from increased solar radiation onto the forest floor in the WUI caused by the thinning, vs. the claimed benefits of reducing crown fire [2-5]

Concern: [Seq#112]

If, as the EA states, the decline of mule deer numbers in Region 2 is, in part, attributable to fire suppression activities (as fire suppression has been noted by the FS itself to be rife with negative environmental consequences), how long will the practice of fire suppression continue? As a concerned citizen, I am alarmed by the contradictory, inconsistent, and unproven messages which the USFS/MVRD circulates in support of its "Mission".

[[ID#112]
Response: [Seq#112]

The current intent of fire suppression policy is "to protect life, property and at-risk lands and resources" (https://www.fs.fed.us/fire/doctrine/doctrinefinala.pdf). Fire suppression policy extends beyond the scope of this project. [ID#112]
Associated Comments: [Seq#112]
If, as the EA states, the decline of mule deer numbers in Region 2 is, in part, attributable to fire suppression activities (as fire suppression has been noted by the FS itself to be rife with negative environmental consequences), how long will the practice of fire suppression continue? As a concerned citizen, I am alarmed by the contradictory, inconsistent, and unproven messages which the USFS/MVRD circulates in support of its "Mission". [3-8]

Concern: [Seq#113]

Please explain what the long-term plan is to maintain the allegedly safer conditions in the WUI,

in the context of the regrowth of small trees, brush, etc. in the years following the forest thinning.

Please disclose the best available science the FS is relying on to plan for this vegetation regrowth

over time.

[ID#113]

Response: [Seq#113]

The proposed treatments will move treated areas closer to the area's natural fire regime condition of Fire Regime number 3, approximately 25 year return intervals (Agee, 1993). These treatments are not meant to be a one-time action. Monitoring of the Mission Project area along with the use of best available science and changing land management policy will determine when and where future treatments occur in the project area. The Environmental Assessment discuss possibly needing another treatment in about 15 years. [ID#113]

Associated Comments: [Seq#113]

Please explain what the long-term plan is to maintain the allegedly safer conditions in the WUI, in the context of the regrowth of small trees, brush, etc. in the years following the forest thinning. Please disclose the best available science the FS is relying on to plan for this vegetation regrowth over time. [2-6]

Concern: [Seq#114]

What is the Forest Service's reassurance that the logged and thinned stands on deer winter range will be "maintained" every 10-15 years, as will be needed to keep the project's proposed thinned conditions? [ID#114]

Response: [Seq#114]

The environmental assessment as a signed decision would be reassurance that the Mission Project area would be monitored and conditions maintained as a legal document. [ID#114]

Associated Comments: [Seq#114]

What is the Forest Service's reassurance that the logged and thinned stands on deer winter range will be "maintained" every 10-15 years, as will be needed to keep the project's proposed thinned conditions? [4-12]

Concern: [Seq#115]

"...would create a more open forested landscape..." "...would lessen wildfire risks in the Wildland Urban Interface,..."

[An "open forested landscape" provides no escape or thermal cover for mule deer, nor riparian zone shade, but it does provide more forage for a permittee's beef production. Reduced wildfire risks for urban homes is not a concern for "fire safe" homes of widely spaced Libby Creek residences.] [ID#115]
Response: [Seq#115]

The Forest Service as a multi-use agency supports wildlife management as well as permitees that use the land to manage cattle and aims to find a balance for land management.

Local studies of mule deer winter range use in Okanogan and Chelan counties found little use of dense cover stands. Naney and Myers (undated) followed 11 radio-collared deer and made 692 observations representing 1,044 deer in the Methow Valley during two winters. Of the deer observed, 73% were on sites with no conifer crown closure. Five % of the total winter observations were of deer using cover with greater than 60% crown closure. 90 % of the winter range was dominated by habitat classes dominated by bitterbrush, sagebrush, bunchgrass, and pole-sized trees with undergrowth of shrubs or bunchgrass. In this study, deer did not appear to prefer thermal cover. However, they noted that observations were daylight hours only, and during winters that were warmer and drier than normal. Moore (2003), in a similar study in Chelan county, found that mule deer use was positively associated to areas without cover, and had a negative association to areas of cover. No difference in day and night habitat use was observed.

Having structures in the Wildland Urban Interface in the fire prone Western Region of the United States always comes with a risk of wildfire. The treatment areas in the Libby Creek area are meant to increase the community's resistance to wildfire. There have been numerous catastrophic wildfires on the Methow Valley Ranger District within the last handful of years with in the Wildland Urban Interface in "fire safe" communities. Living in a "fire safe" community does not insure that a structure will not be affected by wildfire. Whether a home will burn in the event of a wildfire will depend on its building materials (e.g., cedar shingles vs. sheet-metal roofing), landscaping features, and accessibility to firefighting equipment (Cohen 2000) as well as fuels treatments on private property and adjacent to private property on Forest Service land. [ID#115]
Associated Comments: [Seq#115]
"...would create a more open forested landscape..." "...would lessen wildfire risks in the Wildland Urban Interface,..." [An "open forested landscape" provides no escape or thermal cover for mule deer, nor riparian zone shade, but it does provide more forage for a permittee's beef production. Reduced wildfire risks for urban homes is not a concern for "fire safe" homes of widely spaced Libby Creek residences.] [7-11]

Concern: [Seq#116]

Please consider the information we have already provided to the FS in our previous EA comments covering these subjects, in which we cite scientific research that calls into question the assumptions stated and inherent in the revised EA's justification for the forest plan amendment. We note that the EA uses the same kind of justifications for treatments beyond the WUI, so many of our comments not specific to the amendment area apply there

[ID#116]

Response: [Seq#116]

Thank you for your comments. Your previous comments will be taken into account and have been addressed in our response to comments. [ID#116]

Associated Comments: [Seq#116]

Please consider the information we have already provided to the FS in our previous EA comments covering these subjects, in which we cite scientific research that calls into question the assumptions stated and inherent in the revised EA's justification for the forest plan amendment. We note that the EA uses the same kind of justifications for treatments beyond the WUI, so many of our comments not specific to the amendment area apply there. [2-7]

Concern: [Seq#117]

The EA states, "Mule deer populations in Washington Department of Wildlife's Region 2, where the project is located, have experienced a gradual long-term decline in numbers which is attributed to reduced shrub diversity, declining productivity of aging shrubs and lack of recruitment of new shrubs due to fire suppression ... "

(Emphasis added.) What is the FS' s plan for curtailing its destructive fire suppression policies in the project area, including best available science? [ID#117]

Response: [Seq#117]

While fire suppression policy is out of the scope of the Mission Project Environmental Analysis, the Forest Service has admitted the mistake in attempting to suppress all fires on national forests. "Today, fire is recognized as an essential part of many forest ecosystems. According to former Forest Service

Chief Dale Bosworth, the national forests greatest threats include hazardous accumulations of fuels due to the exclusion of fire, and the dangerous fires that could result from ignition of these fuels" (USDA Forest Service 2006).

One of the Forest Service's main objectives is to mitigate these threats through hazardous fuels reduction- prescribed burning or mechanical removal of fuels, as intended with the Mission Restoration Project.

Note that the Okanogan Forest Plan for many Management Areas, outside wilderness and semi-primitive recreation areas identifies the preferred suppression strategy as contain/control (MA-5, 11, 12, 14, 17, 18, 25, and 26) . Limit the acres burned by habitat damaging wildfires. [ID#117]

Associated Comments: [Seq#117]

The EA states, "Mule deer populations in Washington Department of Wildlife's Region 2, where the project is located, have experienced a gradual long-term decline in numbers which is attributed to reduced shrub diversity, declining productivity of aging shrubs and lack of recruitment of new shrubs due to fire suppression ... " (Emphasis added.) What is the FS' s plan for curtailing its destructive fire suppression policies in the project area, including best available science? [2-8]

Concern: [Seq#118]

All references to the reduction of winter range cover, through thinning and commercial logging, being "needed to lessen wildfire risks in the Wildland Urban Interface.." are intentionally misleading and deceptive. Designated WUI in the project area includes thousands of acres, much of which are many, many miles from any homes or infrastructure and reach elevations as high as 7618 feet. The Forest Service needs to change how it refers to WUI so it is not misleading the public.

[[ID#118]

Response: [Seq#118]

The extent of the WUI has no hard definition however "results show that WUI-only treatments result in areas of unchanged crown fire potential across the untreated landscape, therefore leaving it vulnerable to large, severe, and expensive (mega) landscape-scale fire (Kim et all, 2013). Proximity of fires to the WUI and fire size are associated with increases in suppression cost and resource damage. Increasing evidence demonstrates that WUI treatments are effective for reducing damage to communities. However, modeling shows that by not investing in treatments on the larger landscape level, landscape-scale fire will persist. The Collaborative Forest Landscape Restoration Act, or CFLRA (2009), established a program goal of facilitating the reduction of wildland fire costs by implementing landscape-scale restoration. So as treatment extends beyond the poorly defined WUI the intention is to reduce potential suppression costs and move landscapes to within the fire adapted natural variation and potentially manage fire for resource benefit. [ID#118]

Associated Comments: [Seq#118]
All references to the reduction of winter range cover, through thinning and commercial logging, being "needed to lessen wildfire risks in the Wildland Urban Interface.." are intentionally misleading and deceptive. Designated WUI in the project area includes thousands of acres, much of which are many, many miles from any homes or infrastructure and reach elevations as high as 7618 feet. The Forest Service needs to change how it refers to WUI so it is not misleading the public. [4-14]

Concern: [Seq#119]

In terms of wildfire hazard reduction, several topics stand out. First, no acknowledgement is offered of the fact that if the canopy is opened by overstory logging, fire will spread at a faster rate. This may well be more significant in terms of the hazard it presents than the risk of crown fire, which the Forest Service claims the logging will diminish. However, the Forest Service itself acknowledges the logging would be ineffective at reducing crown fire during periods of extreme fire weather, the condition during which most acreage in the district burns (see

2014 Carlton Complex Fuel Treatment Effectiveness: Preliminary Summary, Meg Trebon, Morris C. Johnson, USDA Forest Service).

More significantly, no discussion is given to the ongoing policy of fire suppression and its contribution to hazardous wildfire conditions. A proper examination of the issue of wildfire hazard reduction would examine the value of modifying the current suppression. [ID#119]
Response: [Seq#119]

With current fuel conditions, "wildfires are likely to be larger and on the higher end of the intensity scale because of higher total and dead fuels loads and greater horizontal fuel continuity" (Agee 1993). While surface fire rates of spread may increase due to opening forest canopy structures this fire behavior would be within the natural fire regime for this fuel type, of lower intensity and lower severity. Under extreme (97th percentile) conditions fuels treatment effectiveness is greatly reduced, however under more frequent weather conditions fuels treatments have been effective. "The minimum standard for treatment effectiveness used by the Fire and Fire Surrogate network is 80% survival under 80 percentile weather conditions" (Agee and Lolley 2006). Fire suppression policy modification is beyond the scope of the Mission Project Environmental Analysis. The impacts of fire suppression actions are known and considered when developing project alternatives and objectives. [ID#119]
Associated Comments: [Seq#119]
In terms of wildfire hazard reduction, several topics stand out. First, no acknowledgement is offered of the fact that if the canopy is opened by overstory logging, fire will spread at a faster rate. This may well be more significant in terms of the hazard it presents than the risk of crown fire, which the Forest Service claims the logging will diminish. However, the Forest Service itself acknowledges the logging would be ineffective at reducing crown fire during periods of extreme fire weather, the condition during

which most acreage in the district burns (see 2014 Carlton Complex Fuel Treatment Effectiveness: Preliminary Summary, Meg Trebon, Morris C. Johnson, USDA Forest Service).More significantly, no discussion is given to the ongoing policy of fire suppression and its contribution to hazardous wildfire conditions. A proper examination of the issue of wildfire hazard reduction would examine the value of modifying the current suppression policy, and how that compares with commercial logging in effectiveness, cost, and environmental impact. [5-6]